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A CONTRIBUTION TO THE STUDY OF ONE OF THE VARIETIES OF NECROTIC CHANGE—THE SO-CALLED NECROBIOSIS—IN FIBROMYOMATA OF THE UTERUS.

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THAT form of necrosis, or necrobiosis as it is often termed, which results in the conversion of the ordinary hard fibromyoma into a soft, fleshy-red tumour is not very rare, but in spite of its striking and characteristic appearance it has not attracted much attention from the writers of text-books and treatises. I have had the opportunity of seeing a number of tumours affected in this way, both while Obstetric Registrar at St. Thomas's Hospital, and while Pathologist to the Chelsea Hospital for Women, and it has occurred to me that an analysis of these specimens and of the cases from which they were obtained might be worthy of record, for, although it has not led to any very definite conclusions as to the causation of the process in question, it may help to draw more attention to a very interesting form of degeneration.

The two points to be taken up are (1) the pathology of the change, and (2) the symptoms, if any, which may be attributed to its occurrence. Among the cases on which this study is based are five from St. Thomas's Hospital, which have already been recorded, either in the Hospital Reports,[1] or by Dr. Cullingworth in his paper on

"One Hundred Cases of Uterine Fibromyoma,"[2] and they may be referred to as typical examples of this form of necrosis.

No doubt the reason why these necrotic tumours have not been more specifically mentioned in the text-books is that they have usually been classed under the head of "soft" fibroids or, from their great similarity to ordinary red muscle, as "myomata." Virchow,[3] in the *Krankhaften Geschwülste*, has given what appears to be a description of them under the title of "soft myomata," in which he remarks that they were distinguished by the older observers under the name of "fleshy tumour (fleisch-geschwülste), or sarcoma in the narrower sense of the word." He says that the surface-section does not show the white tendinous appearance of the hard fibroid, but is red or plainly fleshy. Barnes,[4] under "Fleshy and Fibrocystic tumours," describes them as "in many pathological and clinical points very distinct from the ordinary fibroids," as softer, looser, more like muscle, and more liable to cystic and other degenerative change, and to inflammation. "Red, fleshy, loose-textured," they contrast remarkably with the white, dense, "subcartilaginous" appearance of the common hard "fibroid." Hart and Barbour[5] also make a distinction between the slow growing fibromyoma, which is hard with a glistening satin-like surface on section and distinctly marked off from the wall of the uterus, and the more rapidly growing myoma, which is soft, of a pale flesh colour and usually single, and which passes gradually into the surrounding uterine wall. Roberts[6] in the same way classifies fibroids as "hard" and "soft," and says of the latter that they may continue to grow after the menopause, or at any time take on a rapid growth, and that they are little influenced by ordinary treatment or by removal of the ovaries. "They are said to contain more muscular tissue, but this is not always the case, though some certainly appear redder, and, in fact, look like liver on section." A little further on in the same work[7] he gives a more definite account of these tumours under the title of "Hæmorrhage into Fibroids":—"Sometimes a fibroid appears on section distinctly red or liver coloured; such tumours are generally single and encapsuled; they are thought by some to be all muscular on account of their colour. The author has examined a few of these cases, and has come to the conclusion that the condition represents degeneration and blood stasis; probably it is a sort of thrombosis much the same as in an ovarian cyst with a twisted pedicle. The muscular fibres have lost their outline and are poorly nourished, and the whole tumour is engorged with blood. The changes are degenerative, and not those of active growth." The best description which I

have been able to find is that given by Gebhart.[8] He terms the condition necrobiosis or maceration, and compares the change in the tumour to that in a macerated fœtus which has died *in utero*, and to which no putrefactive organisms have obtained access. He says that "the change chiefly affects the large interstitial myomata, and that as the nutrition of the tumour runs centripetally, the first change takes place in the central portions. The tissues become softened and lose their firmness; their colour, owing to the breaking up of the red blood corpuscles and diffusion of the pigment, is rose or flesh coloured, in the later stages brownish or greenish. The tumour cells lose their capacity for taking up nuclear stains." This corresponds very closely to what has been found in the specimens considered in this paper, but the want of uniformity in the classification and description of these degenerate growths appears to justify a detailed analysis of their characteristics. Before proceeding to this it may be well to suggest that the time has come when the traditional classification of uterine fibroids into "hard" and "soft" varieties, ought to be abandoned. It has no accurate pathological basis, but is rather an expression of differences in gross anatomy and in clinical manifestations, and is not only unnecessary, but gives a false idea of the nature of the softened tumours. They ought to be looked upon merely as examples of the ordinary fibroid which have undergone retrograde change and not as a distinct variety. The characters ascribed to them are those of growths in which changes of an œdematous, cystic or necrotic nature have occurred. The softened tumours are naturally not as well differentiated from the surrounding tissues as the hard tumour, which feels almost like a foreign body in the uterus; to say they are generally single is only another way of stating that the single interstitial fibroid is the one most liable to softening; the pink or fleshy colour, as stated by Roberts and Gebhart, and as shown by the examination of the specimens studied in this paper, is but another indication of degeneracy; rapidity of growth as indicated by the increase in size of the tumour is one of the clinical signs of degenerative change in fibroids, and that this may take place after the menopause and after removal of the ovaries is also well established, and forms one of the strongest arguments against the expectant treatment of these tumours and against the operation of oöphorectomy. Doubtless, too, among the diffuse and unencapsuled growths included under the head of "soft" fibroids are cases of adenomyoma of the uterus as described by Recklinghausen.

The specimens on which this study is based are 19 in number, and

were all removed by operation—14 by abdominal hysterectomy, 4 by myomectomy, and 1 by vaginal hysterectomy. In 11 cases the tumours were single, in 8 multiple; of the latter all were involved in the necrotic process in 2 cases, and in 6 one tumour only was involved, though in 3 of these other forms of degenerative change were also present. In 17 cases the growth was interstitial, and in 2 of these was also partly submucous, and 2 were subperitoneal tumours. For the most part they were of medium size, *i.e.*, no very large growths were affected. They varied in size from small pea-like fibromyomata up to one rather larger than a fœtal head. The largest measured $7 \times 6 \times 6$ inches. In none of them was there any evidence of twisting of the pedicle or strangulation of the blood supply.

Naked-eye appearance. Except that they felt somewhat softer, there was nothing on external examination to show that any change had taken place in the growth; in one only were there a few fine adhesions which had been separated during removal. As soon as a section was made through the tumour the characteristic fleshy-red staining at once attracted attention. The colour varied from a light red or pink colour to a deep purplish red or livid tint, and in most of the specimens was evenly diffused throughout the whole mass; in one or two cases a small area round the periphery escaped, and in one, as mentioned later, the change was confined to the central portions. In a well-marked example the best comparison for the appearance seen on cross-section is that of a raw beefsteak, and this is further borne out by the way the colour of the freshly cut surface, like that of a beefsteak, tends to become darker on exposure, though a fresh section shows that the deeper part still retains its original colour. Except in those cases where there has been some breaking down of the tumour substance, very little blood or fluid of any kind can be expressed from it, and, apart from the colour, there is nothing on naked-eye examination to suggest engorgement with blood, like that seen in the tissues of an ovarian cyst with strangulation of the pedicle. In the less marked cases the only noticeable change is the light red or pink staining of the white surface of the fibroid, the whorled appearance being well seen; in the more advanced cases the tissue is not only of a deep reddish purple colour, but the fibrous appearance is much less evident, and sometimes almost lost, and the tissue is softer and more diffluent in its central parts. In some of the specimens a thin line of dark blue or black pigment is seen at the periphery between the tumour and its capsule, and in all there is a well-marked differentiation between the bloodstained growth and the

whiter capsule of uterine muscle, which shows no evidence of venous congestion. In two specimens small cystic cavities were present. containing a brownish mucoid fluid, which did not suggest an origin from extravasated blood, but were exactly like the cavities in the ordinary cystic fibroid, and very probably may have been present before this necrobiotic process occurred.

The mass usually has a slight stale smell, and in the more advanced cases may have a distinctly fish-like odour; in one specimen the smell was described at the time of removal as "faintly urinous." W. A. Freund[9] has drawn attention to the smell, and speaks of it as reminiscent of propylamine. As the amines—methylamine is perhaps best known in this respect—have the odour of decaying fish, his comparison is evidently meant to convey the same impression. The probability is that the fishy smell is actually due to the presence of amines, for they are one of the products of the destructive distillation of proteid, and may be formed as a result of the breaking down of the proteids of the tumour.

That the necrotic process commences in the centre of the tumour was very well shown in a uterus which Dr. Tate removed in St. Thomas's Hospital by vaginal hysterectomy from a patient of 36, who had been curetted four days previously. It contained nine small fibroids varying in size from a pea to a walnut (the largest measured $2\frac{1}{2}$in. × $1\frac{3}{4}$in.). They were both submucous and interstitial, and on section every one showed a small hæmorrhagic centre; in the larger ones this was not bigger than the head of a large pin, but in the smaller ones it occupied a central area of about two-thirds of the whole cross-section of the tumours. Histological examination of these blood-stained centres showed that they were of the same character as the larger fleshy tumours. The sections were examined in the clinical laboratory and reported on by Mr. Shattock as showing necrosis. I also had the opportunity of seeing another example of this central change in a specimen removed in the post-mortem room at St. Thomas's from a patient of 40, who had died from intestinal obstruction. The tumour was an interstitial fibroid, about the size of a tangerine orange, and on section was very clearly divided into two portions—a soft central part of about the size of a florin, of a deep fleshy-red colour, and a peripheral portion showing the ordinary structure of a hard fibroid. This is the most striking example of what Freund calls central necrosis which I have seen, for whilst the change in the centre was advanced, the periphery was quite unaffected. In two of the specimens a small area of unaffected tissue was noticed along the periphery, but of very small extent, and, generally speak-

ing, the whole tumour appeared to the naked eye to be fairly evenly involved.

Bacteriology. Cultures were taken from five specimens, and in all cases were sterile.

Histology. Histological examination was made in 17 out of the 19 specimens considered. As a rule pieces of tissue from the central and peripheral portions were taken, and when possible with some of the capsule or unaffected part of the tumour, so as to afford a ready means of comparison. As a result of a study of these sections the principal change in the tissue is found to be one of necrosis. In all of them there was a marked deficiency in the nuclear staining of the tissue cells, and in the more advanced cases this had resulted in an almost total absence of nuclei in the section leaving only wavy bundles of fibres which had taken up the ground stain. In some cases the muscle bundles showed signs of granular or hyaline change. The absence of nuclear staining was very well seen in one of the sections, where the tissue was cut so as to include a portion of the fleshy coloured mass and a thin edge of unaffected fibromyoma on its outer border. On looking at the section with the naked eye the distinction between the hæmatoxylin stained area on the border and the rest of the section, where the counter-stain (orange rubin) was alone evident, was very marked. Microscopically the stained border showed the usual fibromyomatous structure with bundles of interlacing muscle cells with well stained nuclei, while in the other part the nuclei had almost entirely disappeared, and there were only a few areas where isolated bands of stained nuclei were found. In the places where the nuclei have taken up the stain they appear much more faint than usual, and fully merit the title of " nuclear ghosts," though here and there may be present small patches of well-stained nuclei, which are evidently the last to survive the necrotic process. In other cases the nuclei may be seen as small shrivelled up remnants lying in a clear vacuolated space, best observed in those parts of the section where the bundles have been cut transversely. This vacuolated appearance of the muscle cells might be considered to be due to the process of preparation, but its occurrence in some sections only, and only in parts in any one section, points to its being a definite degenerative process in the cell. The muscle bundles show much less change than the nuclei. Sometimes they appear granular and broken up transversely, and sometimes they have a somewhat hyaline or swollen appearance, so that the outlines of the fibres are difficult of recognition, but as a rule there is no very marked alteration in them. Occasionally small spaces are seen which appear to be

filled with a detritus made up of broken down fibre and blood cells. Special attention was paid to the state of the vessels and to the presence of hæmorrhages in the tissues, in view of the statement of Roberts[7] that blood stasis and thrombosis are a characteristic feature of these degenerate tumours. Such vascular changes were not, however, found to be conspicuous; in four or five sections vascular spaces were noticed full of blood cells, and in one there was an area of hæmorrhage into the tissue of the tumour in which the fibre bundles were separated by masses of red blood cells; in some cases venous sinuses filled with blood were noted round the periphery, between the tumour and its capsule, but these vascular changes are by no means a prominent feature in the sections, and in the majority were not seen at all. The evidence would seem rather to point to Gebhart's statement being correct that the colour of these tumours is due to a general diffusion of blood pigment through the necrosed mass, that, in fact, a process similar to that known as the "laking of blood" has taken place rather than an engorgement of the vessels. This is further borne out by the fact that the tumours when fresh are not found full of blood, such as might be expected as the result of a twisted pedicle, and that the appearance of the slightly marked cases is simply that of a fibroid, which has been evenly and delicately stained with hæmoglobin.

Frequency. It is difficult to estimate the frequency of this change from the small number under consideration. In the five years, 1897—1901, 88 fibromyomata were removed by operation in the gynæcological ward at St. Thomas's Hospital, and of these 7, or nearly 8 per cent., showed this form of necrobiotic change. During my term of office at the Chelsea Hospital for Women (nearly two years) 105 specimens of fibromyomata of the uterus were examined in the pathological laboratory, and of these 10, or 9·5 per cent., were affected in this way. The proportion in the Chelsea numbers is, however, exceptionally large, as an unusual number of these tumours happened to be removed at that time. By glancing at the pathological registers, I noticed that for some time before and for nearly a year after my term of office, no other examples were seen. Possibly between 5 and 7 per cent. of fibromyomata removed by operation may be expected to be affected by this degenerative process.

Age incidence. The following table gives the ages in the 19 cases:—

Age.	No.		Age.	No.	
27	1	3 between 20 and 30.	41	1	6 between 40 and 50.
28	1		43	2	
29	1		44	1	
33	1	9 between 30 and 40.	45	1	
34	2		49	1	
35	1		54	1	1 between 50 and 60.
36	3				
37	2				

These numbers do not show any variation from the usual age periods of fibroid operations. Attention may, however, be directed to the fact that this degeneration does not appear to be connected with advanced age. Only one patient was over 50, and in that case the menopause had not taken place. The one case operated on after the menopause was that of a woman of 43, who had ceased to menstruate for two years. In the light of this table the change does not seem to be a senile one, nor is the evidence in favour of arterial degeneration as the immediate cause.

Marriage and child-bearing. Out of the 19 cases, 15 were married and four were single, and of the latter one was pregnant at the time of operation. Of the 15 married women 13 had been pregnant at some time, while two had had no pregnancy. Thus out of the total number of cases five had never been pregnant. Five cases were pregnant at the time of operation, and two cases were operated on within two months of the termination of a pregnancy, one seven weeks after a full term confinement, and the other eight weeks after an abortion at the fourth month, brought about by the passage of a sound during examination under an anæsthetic for the purpose of diagnosis. These figures may be tabulated as follows:—

7 cases were complicated with pregnancy or followed recent delivery.
7 cases were removed from patients who had been pregnant at same time.
5 cases were removed from patients who had never been pregnant.

These figures seem to show that pregnancy—quite apart from the accidents of labour or the puerperium—has some influence in the causation of this necrotic process. Virchow[3] implies that this is the case when he states that the soft fleshy tumours seem to be specially influenced by pregnancy, in that the tumour increases in size with the progress of the pregnancy, and with the physiological hyperplasia of the uterine wall. Bland-Sutton[10] has also drawn attention to the frequent occurrence of this change during pregnancy, and has recorded two cases of this kind—one in a woman three months pregnant, in which the tumour showed the change in irregular dark

streaks, and another in a woman operated on a few weeks after labour, in which the tumour was of a deep mahogany colour and soft and diffluent in parts. In the second case the tumour on microscopic examination presented the structure of a typical fibromyoma, thickly splashed with blood pigment, but without obvious extravasation of blood corpuscles, while bacteriological examination gave a negative result. Bland-Sutton makes the following observations on these specimens:—"A careful study of a number of fibroids obtained from gravid uteri shows that under these conditions fibroids are very prone to undergo degenerative changes, and are especially liable to soften. The peculiar alteration in colour is another feature which in my observations has been entirely confined to fibroids complicating pregnancy. The common colour of a fibroid is dirty white or a very pale yellow; in many degenerating fibroids the yellow deepens. In pregnancy the fibroid usually assumes a deep red or a mahogany tint. In the early stages the tumour exhibits this colour in streaks, but as the pregnancy advances the whole tumour becomes affected." Attention may also be drawn to case 11 in Cullingworth's paper,[2] where a fibroid in an early state of central necrosis was associated with pregnancy. This fleshy variety seems to be no exception to the frequent occurrence of degenerative changes in fibroids as the result of pregnancy.

Causation. No evidence has been obtained sufficiently definite to throw any light on the cause of this necrotic process, but there are a few points which may be brought forward in criticism of the opinions expressed elsewhere. Haultain[11] considers that the colour of the tumour is due to interference with the venous return, and that "the immediate cause of impairment in the circulation is most frequently to be found in the capsule; thus interstitial tumours are by far the most frequently affected. The tumour may grow rapidly without sufficient dilatability of its surrounding capsule, or be compressed by the active contractions of the thick muscular surroundings. In these cases the entire tumour is affected uniformly. It may also be met with in stalked subserous tumours as the result of blockage to the circulation in the pedicle." Obstruction to the circulation in the pedicle was not noticed in any of the cases. Compression by the capsule does not explain the occurrence of the change in subperitoneal tumours unless the same action is exerted by the surrounding muscular tissue on the entering vessels, nor does it help to an understanding of why, in six of the cases where multiple growths were present, one tumour only was necrosed. Another point is that if this were the case the use of ergot might be expected to form a

definite predisposing factor. It has not been possible to investigate the question of the previous administration of ergot in these cases, for this is a very difficult matter when the patients have been under the care of several practitioners, but it may be noted that in more than half the cases the patient came under surgical treatment within a short time of the commencement of the illness, and for pain and not for menorrhagia, so that what evidence there is tends to show that ergot is not, at any rate, an important factor.

Vautrin[12] considers the necrosis of these tumours is due to an ischæmia produced by two factors, by the uterine contractions, and by the development of a fibrous shell causing them to be enclosed in an inextensible capsule. He does not give any satisfactory evidence of the latter change, and his explanation does not carry us any further than Haultain's.

Stouffs,[13] in describing a degenerate fibroid removed three months after delivery, suggests that the change may be due to deficient blood supply from obliteration of the vessels from retraction of the uterus, but this does not explain what is more frequent in the series under consideration, *i.e.*, why the change takes place during pregnancy, and even at a fairly early period.

Freund[9] mentions sclerotic degeneration of the peripheral arteries, with proliferation of the intima, and varicose, hyperæmic, partly thrombosed veins in the interior of the mass, as found in these tumours. In the later specimens which came under my observation I endeavoured to investigate the truth of this, but failed to satisfy myself. The arteries of the uterus are always tortuous and thick-walled, and there is a great temptation to give them an important rôle in uterine pathology, but the change ought to be quite distinct before a definite statement is made. In one of these specimens a vessel with thick walls and a proliferating intima was found near the periphery, but this was the only undoubted example of vascular change noticed, and it is difficult to believe that any such arterial change is the causa causans, unless it is much more definitely marked and evident in a larger proportion of the cases.

It may, therefore, be stated that no evidence as to the immediate causation of this change has been obtained. Pregnancy appears to be a predisposing factor, though in what way is not certain. No other provoking cause can be gathered from a study of these cases; two had been curetted, but this is a sufficiently common treatment of fibroids to be in no way remarkable in 19 cases. One patient suffered from cystitis and surgical kidney, and another had mitral

stenosis, but there is no evidence to show that these are more than coincidences.

Final stages. The question as to what will be the ultimate stage of these necrosed fibroids is also a difficult one. The most advanced cases, *i.e.*, the very livid and soft growths, with fishy odour, are breaking down and becoming diffluent in the centre, which would indicate that the next stage will be that of a cystic mass containing in its centre broken down bloodstained material. One of Cullingworth's[14] may have been of this character. The tumour in this case had broken down into a cystic cavity containing 4 pints 7 oz. of dark blood-stained fluid with much altered blood and broken down tissue. On the other hand, it is probable that a certain number may undergo a change in the opposite direction, *i.e.*, may become dried up and putty-like from absorption of fluids, and later calcified from the deposition of lime salts. In one of these cases,[15] in which there were several fibroids in the uterus, in addition to the one which had undergone the fleshy necrosis, there was one of greenish-yellow colour, as if from old and altered blood pigment, and of a greasy almost caseous character, which was surrounded by a thin layer of egg-shell calcification.

Judging by the marked softening which is present in the well marked cases, the diffluent and cystic transformation is probably the more common. If, as is stated, the absorption from these necrotic masses gives rise to constitutional symptoms and signs of auto-intoxication, the fact that they are removed before reaching the later stages may explain why the completely diffluent specimens are so rarely seen in the operating theatre.

II. *Clinical manifestations.* This form of necrosis, from its pathological appearances, is evidently a much more acute change than the slower processes of œdema, cystic, fatty and myxomatous change, leading on to partial death of the tissues of the tumour. It might be expected, therefore, to cause well-marked clinical manifestations, which might lead to a suspicion of the state of the fibroid.

Vautrin,[12] whose patient had suffered from fibroids for many years, but had only five months' history of severe constitutional symptoms and cachexia, suggests that the somewhat sudden appearance of these symptoms was due to the necrobiotic change in the tumour, and to the absorption of its disintegration products. He considers that the lymphatics at the periphery remain pervious, and convey the noxious material into the circulation, even though the circulation in the growth itself has ceased.

Freund[9] also describes the symptoms as those of auto-intoxica-

tion, and draws a picture of the patient suffering from centrally necrosed fibromyomata. These symptoms—dirty sallow complexion, chronic gastric disturbances, feeble circulation, nervousness and hypochondriasis—are those which are usually recognised as present in patients who have long suffered from fibroids, and as probably indicating the presence of degenerative change in the tumours. He draws attention to the importance of an examination of the urine for evidence of this auto-intoxication, and mentions that the presence of acetone and indican in the urine of one of his patients led to the correct diagnosis of central necrosis being made before operation, and suggests that if this observation is found to hold good in other cases, it may be a valuable indication for operative treatment. Cullingworth[2] in his analysis of 100 cases of fibromyoma found pain was a marked symptom in two-thirds of the necrotic cases, in three-fifths of the cystic cases, and in nearly one-third of the œdematous cases; but he also calls attention to the fact that pain was complained of in about one-third of the uncomplicated cases—the cases, in short, where there was nothing to account for it. From this it is evident that much caution must be exercised in ascribing symptoms to the necrotic process, for such symptoms may be present without any corresponding change being discovered in the tumour, and that a statement like that of Bland-Sutton[10] that "it may be taken as an axiom that when a fibroid becomes painful it signifies that the tumour is undergoing secondary changes, or that some complication has arisen in the pelvis," must be accepted with some reserve. Though an analysis of the symptoms noted in these 19 cases yields no definite clinical picture, it may be of some value in indicating the lines on which a provisional diagnosis may be made.

The appearance of the patient was not carefully noted in all cases, but in three only was attention directed to the sallowness of the complexion, and in one the note was made that the patient was emaciated and looked very ill, but this was the case complicated by cystitis and pyelitis, so that her appearance can scarcely be ascribed to the tumour alone.

Though the *urine* was not examined further than by the usual clinical tests, so that no information was obtained as to the presence of acetone and indican, attention may be directed to a paper by Kriwoschein,[16] in which the results of the examination of the urine for acetone in 60 patients suffering from various diseases of the pelvic organs are recorded. Acetone was found by the iodoform test to be present in 28 cases. The special interest of these results in relation to Freund's paper is that of 20 cases of fibromyoma,

acetone was found in the urine in 19. Indican, even when present in the urine in considerable amount, may be due to so many conditions that it can be of little help as an indication of auto-intoxication from the necrotic process in fibroids. Patients with these tumours are so frequently subject to constipation that it is most likely to be due to absorption from the intestinal canal. Thus it does not appear as if the examination of the urine would be of assistance, at any rate so far as acetone and indican are concerned.

Pain was complained of in 16 cases, and was absent in three. In 11 cases it was severe, and was the chief reason for the patients' seeking advice; in five it was slight, and was not the prominent symptom. In the five cases of operation during pregnancy and in five of the other cases it was the occurrence of pain which led to operation. Thus pain was present in five-sixths of the cases, and was the reason for surgical interference in more than half of all of them. In five cases the patient had to take to bed on account of it; two of these cases are recorded at length in the St. Thomas's Hospital Reports for 1899 (pp. 271 and 273). Another, a case of Mr. Bland-Sutton's at the Chelsea Hospital for Women, may be mentioned in brief as showing the acute nature of the pain in one of the cases complicated by pregnancy. The patient was a woman of 34, who had had sixth months' amenorrhœa. She had a sudden attack of pain in the lower abdomen one afternoon, which gradually became worse and localised in the right side, and thus drew her attention to a lump there. Two days later the pain was so severe and persistent that a consultation was held in the evening, and as a result the patient was sent into the Chelsea Hospital on the following day. Her temperature on admission was 99° C, rising later in the evening to 100°. A hard rounded mass was felt attached to the uterus on the right side; abdominal section was advised, and on the day after admission myomectomy was performed. The tumour was fleshy in colour, and contained a few breaking down cavities. There was no evidence of twisting of the pedicle, in fact the tumour was sessile. A very similar case was operated on recently by Mr. Battle at St. Thomas's Hospital, and he has kindly supplied me with the following particulars:—The patient was a woman of 28, 4½ months pregnant, who was admitted to the hospital as an urgent case, on account of severe pain in the lower abdomen of five days' duration. For four days a swelling had been noticed in the situation of the pain, and at the operation this was found to be a necrotic sub-peritoneal fibroid about the size of two fists with a slender attachment to the uterus, which was easily separated by the finger. The

muscular wall of the uterus bled freely from the raw surface, and the hæmorrhage had to be controlled by under-running with sutures as there was not sufficient tissue to provide flaps to cover it. Another example of the same kind is recorded by Mackenrodt.[17] He enucleated a centrally necrosed fibroid of about the size of two fists from the pregnant uterus of a patient of 39, who was suffering from severe abdominal pain with sickness, and was in a condition of extreme feebleness and exhaustion. Although the uterine wall was so far torn through during removal of the tumour that the decidua was exposed, the pregnancy was not interrupted. Doran[8] describes a case in which hysterectomy was done in the fifth month of pregnancy for a necrobiotic fibroid which had given rise to attacks of violent pain with rapid pulse, and no doubt many other like cases might be collected from the literature. That the severe abdominal pain which may accompany the necrosis of these tumours often leads to a wrong diagnosis—very frequently to that of ovarian cyst with axial rotation of the pedicle—has been pointed out by Bland-Sutton,[19] who also calls attention to another matter, which may be of interest, though it is scarcely germane to this subject, *i.e.*, the way in which the uterus tolerates surgical operations even when pregnant. He gives a table of eight cases of cœliotomy for the removal of subserous fibroids during pregnancy, and of the seven which recovered all went to term. Of the cases collected by Thumin[20] 21 aborted out of 92 non-fatal ones. In none of the cases mentioned in this paper in which myomectomy was done during pregnancy did abortion result.

With regard to *tenderness* of the tumour, there was marked tenderness in four cases, slight tenderness in one, in six it was described as not tender, and in the others there was no note made as to this symptom, so that it may be taken that tenderness of the tumour is only occasional. Three out of the four cases where tenderness was marked were in women pregnant or recently delivered.

Owing perhaps to the number of cases of pregnancy, *menorrhagia* was not so frequent a symptom as is usual in patients suffering from fibroids; it was noted in nine cases, including that of one of the pregnant women, where it had been present before the physiological amenorrhœa.

Excluding one case of Dr. Cullingworth's, where the temperature varied between 102° and 103°, as this patient was also suffering from pyelitis and surgical kidneys, there was little or no rise in the *temperature*. A temperature between 99° and 100° was not infrequent—it was noted in nine cases—but such slight elevation is

better explained as the result of the excitement of admission to hospital and the anxiety about the impending operation than by the absorption of products from the necrosed tumour.

As stated at the beginning of this paper, there is little of a definite nature to be gathered from the analysis of these cases. Its results are recorded rather in the hope of attracting further attention to a subject which has hitherto scarcely received the notice it deserves. The points which this study seems to bear out are as follows:—

1. The tumours most frequently affected by this fleshy necrobiotic change are the interstitial fibroids of medium size.

2. In spite of their blood-stained appearance they are not engorged with blood, and hæmorrhage and vascular congestion are not the marked feature in these tumours, as is seen as the result of interference with the venous return. The characteristic change is one of necrosis, as shown by the disappearance of the nuclei, or by their inability to take up nuclear stains, and later by a softening and disintegration of the muscle fibres. Their colour is probably due to a diffusion of blood pigment through the dead tissue by a process similar to that which occurs in the laking of blood.

3. The change begins in the centre of the tumour, and when it is partial the central portions only are involved. In the majority of cases, however, the whole growth is found to be affected.

4. The process occurs most frequently during the child-bearing period of life, and pregnancy has a distinct predisposing influence in its production.

5. Pain is a very frequent symptom, and is the most common cause of surgical interference; tenderness of the tumour is less frequently observed; fever is unusual. The symptoms produced by these necrotic growths are scarcely sufficiently defined to lead to a recognition of the change having taken place. The occurrence of severe pain in a patient with fibroids, especially during pregnancy or shortly after its termination, strongly suggests a necrotic process in the tumour, and gives a distinct indication for operative interference.

In conclusion, I wish to express my thanks for the use of material to my colleagues in the obstetric department at St. Thomas's Hospital, and to those members of the staff of the Chelsea Hospital for Women, whose cases I have used, and also to Mr. Bland-Sutton and Dr. Comyns Berkeley, who were good enough to bring specimens removed elsewhere to the laboratory at Chelsea and to allow me to add them to this series.

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SUCCESSFUL REMOVAL OF A CYSTIC FIBROMYOMA OF THE UTERUS, WEIGHING 87 LBS.

By J. CLARENCE WEBSTER, M.D., *Professor of Obstetrics and Gynecology in Rush Medical College, affiliated with the University of Chicago.*

Mrs. L., married, aged 41, was admitted to my service in the Presbyterian Hospital, Chicago, December 10th, 1902, complaining of great enlargement of the abdomen, a feeling of discomfort, inability to walk with ease, occasional shortness of breath.

History of Disease. About 10 years previously a small lump, the size of a hen's egg, was noticed in the left iliac region. Seven years ago an examination was made, and a tumour of the womb was found as large as a fœtal head. An attempt was made to ligate the uterine arteries by the vaginal route, and her physician stated that this had been successful. No diminution in the size of the tumour followed, but rather a gradual increase. Until four or five years ago the mass was tender, but not since. After menstrual periods she has frequently observed some diminution in the size of the swelling and some relief as regards her discomfort. She is short of breath much of the time. She has not been confined to bed, but has not been able to walk much, and has spent most of her time during the day in an easy chair or sofa. There has been no appreciable change in her general nutrition.

Menstrual and Sexual History. Menstruation began at 14, regular 28 day type, three or four days' duration. For many years the flow was moderate; recently it has been profuse. There has never been any dysmenorrhœa. Since the tumour was noticed she has always felt better during menstruation than at other times. She has never been pregnant.

Other Illnesses. As a child she had some lung trouble; also scarlet fever and diphtheria. She lived in the south eleven years, and suffered from diarrhœa. During much of that period her skin was jaundiced and pigmented.

Physical Examination. She is of medium size, poorly nourished. The thyroid is moderately and uniformly enlarged.

Chest. The heart is displaced slightly upwards and to the left. Sounds normal. The lower part of the thorax is bulged somewhat

outwards by the abdominal swelling. The abdomen is enormously distended in a uniform manner, and is pendulous. The veins are somewhat prominent in the parietes. The navel is stretched and bulged forward as distinct local protusion 2in. in transverse diameter.

Measurements:—

From tip of ensiform to symphsis pubis	91 cm. (35⅞in.).
„ „ umbilicus	49 cm. (19¼in.).
Greatest girth of the abdomen	152 cm. (5ft.).
Chest circumference at xyphoid	79 cm. (31⅛in.).
„ „ over mammæ	80 cm. (31½in.).
„ „ under arms	71 cm. (28in.).
From one anterior superior iliac spine to the other in front	95 cm. (37½in.).
The lowermost portion of the pendulous abdomen is below the level of the anterior superior iliac spines.	28 cm. (11in.)

The urine was normal except for the presence of a few hyaline and granular casts. These disappeared shortly after her admission to hospital. The quantity of urine in 24 hours varied from 1,500 to 1,850 c.c. The blood analysis gave 3,728,000 erythrocytes per cu. mm., 13,200 leucocytes, and 55 per cent. hæmoglobin; temperature and pulse normal. The patient was kept in bed, iron, strychnine and diuretics being administered, and the diet carefully regulated.

Operation. December 16th. I was assisted by Drs. Farnum and Barnhardi, Dr. Wahrer attending to the anæsthesia. The skin was infiltrated with Schleich's mixture for a length of five inches below the umbilicus. The peritoneal cavity was then opened along this area, and the anterior surface of the tumour examined. Adhesions were present over its lower portion, but they were easily divided. The upper portion of the tumour was occupied by a large cyst. This was tapped and a large quantity of straw-coloured serous fluid removed. Several smaller cysts were similarly treated; in some of these the fluid contained blood. The abdominal incision was then extended above and below until it measured about 12 inches, no further anæsthesia being employed. This caused the patient slight discomfort. The entire tumour was then lifted out of the abdomen, the cavity being filled with gauze sponges soaked in hot normal salt solution. The peritoneal cavity contained some free serous fluid. The ovaries and tubes were enormously hypertrophied, and were covered with many adhesions. The uterine and ovarian vessels were greatly enlarged. The round ligaments were ligated and divided, then the ovarian vessels, and finally the uterine vessels. The normal relationships were considerably altered, and many adhesions were present to the rectum and other pelvic structures.

FIG. I.

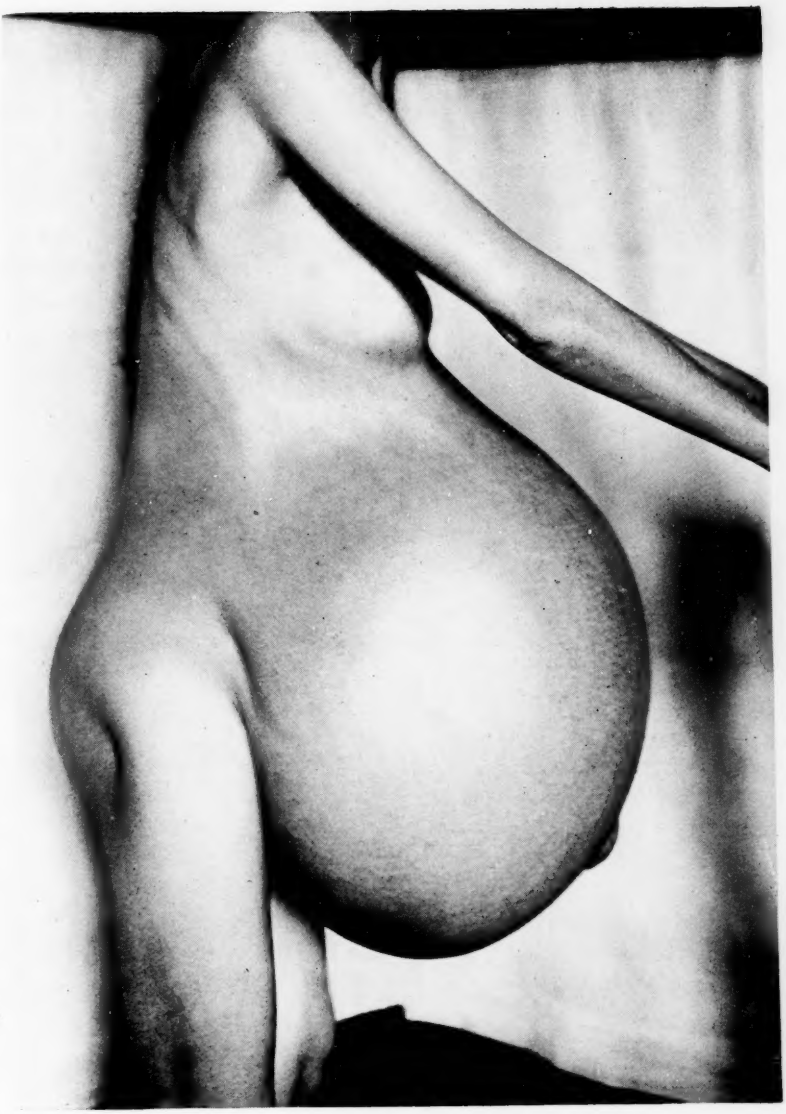

FIG. II.

The patient complained of some pain when the latter were divided, when the needle was introduced into the tissue and when the catgut ligatures were tied. After I had worked for an hour the patient began to get somewhat restless, and I ordered a few drops of chloroform to be sprinkled on the inhaler. These were repeated from time to time, but the quantity was not sufficient to produce loss of consciousness. The entire uterus and appendages were removed, the vagina closed and all raw surfaces carefully covered with peritoneum. The recti and other abdominal muscles were noticed to form thickened elongated masses lying along the iliac fossæ. The whole anterior portion of the abdominal wall consisted only of skin, stretched fascial structures and peritoneum. A large portion of the wall was removed on each side of the incision, but no attempt was made to bring the muscles towards the middle line on account of the length of time occupied in the removal of the tumour. Several pints of hot normal saline solution were placed in the abdomen before the incision was closed.

The operation lasted 2½ hours. During the first hour no anæsthetic was used except the Schleich mixture in the skin. During the remaining 1½ hours only 2 grms. (ʒvi.) of chloroform were employed. After the operation the patient's pulse was 74. She made a normal recovery. Six days after the operation she weighed 91 pounds. Shortly before leaving the hospital, on January 14, 1903, she weighed 101 pounds.

The nature of the Tumour. The tumour was a multilocular cystic fibroid uterus. The Fallopian tubes were greatly elongated. The ovaries were greatly enlarged. One was flattened and somewhat crescentic in shape, measuring 18 cm. in length, 4 cm. in breadth and 5 cm. in thickness. The other was ovoid, about as large as a goose egg and cystic. The entire tumour and its fluid contents weighed 87 pounds. Its weight was therefore just about that of the rest of the patient at the time of operation.

Remarks. The case is of interest chiefly because of the successful recoverey after the removal of a very large uterine fibroid tumour. The occurrence of such a large uterine growth is very rare, successful removal much rarer. In the whole of literature I have not found reports of a dozen cases in which the tumour weighed more than 75 pounds.

Platonoff	described a	solid	fibroid of	90	pounds.
McIntyre	„	„	„	106	„
Stockard	„	cystic	„	135	„
Hunter	„	„	„	140	„
Severanu	„	„	„	195	„

In almost every case in which hysterectomy was carried out death occurred.

I attribute my success in this case to the careful preparation of the patient prior to the operation, to the heat applied to her body during the operation by means of an electric pad, to the slight loss of blood, and to the small quantity of anæsthetic administered. The abdomen was opened for a distance of 12 inches, the tumour was aspirated in various places, was then lifted out of the abdomen by two assistants, many adhesions being separated, the ovarian and uterine vessels were ligated and the broad and round ligaments were divided, all prior to the administration of a general anæsthetic. Verbal suggestion and encouragement were constantly employed during this period in order to quiet the patient. During the rest of the operation only a few drops of chloroform were used from time to time, in all 6 drachms. This sufficed to keep her very quiet, though no reflexes were abolished. During the last year I have frequently adopted this procedure in abdominal operations in cases in which the patient's condition did not warrant the administration of a general anæsthetic in any quantity. After using the Schleich mixture in the skin I have entered the peritoneal cavity and have worked as long as possible without the use of any anæsthetic. I have found great variations as regards the endurance of patients. Only occasionally, however, have I been forced by the nervousness or struggling of the patient to anæsthetise her immediately on entering the abdomen. By such a method of operating, though there is some mental and physical distress to the patient, there is a diminution in the risk to her life, and in addition she is ensured considerable or complete freeom from the disturbances which ordinarily accompany the post-operative state. The value of the electric pad to supply heat to the patient's body in such cases I cannot too strongly emphasise. The free use of hot normal saline solution in the abdominal cavity before closure is also highly recommended by me.

FOUR CASES OF RUPTURED EXTRA-UTERINE GESTATION OCCURRING IN TWO WOMEN. REMOVAL BY ABDOMINAL SECTION. RECOVERY.

By A. J. STURMER, *Lieut.-Colonel, I.M.S.; Superintendent Government Maternity Hospital, Madras.*

Cases of double ectopic gestation occurring in the same female are of sufficient rarity to merit a record. The objection may be raised that the second case was not an ectopic gestation, as no embryo or chorionic villi were found, but I am unaware what other disease would cause a similar rupture without leaving a trace of its nature, and there was no apparent sign of disease. Probably if sections had been made of the tube, villi would have been found under the microscope. By some it may be said that the operations were not required, and that under "conservative" treatment the patients would have recovered. This objection would certainly not hold good in the fourth case, for hæmorrhage was continuing and the patient became more anæmic during her stay in hospital, and in the second and third operations directly the clots were detached free oozing commenced; these clots might have become detached by some sudden movement of the patient under the "conservative" treatment.

In the *Journal of Obstetrics and Gynæcology* for August, 1902, is a very interesting article by Dr. C. Lockyer, on the treatment of this condition. I have performed laparotomy 20 times with two deaths for ectopic gestation; in one of the cases that died I kept the patient under observation too long; she was admitted with fever, and by the time I operated inflammatory changes had commenced within the abdomen. I am of opinion that laparotomy should be performed as soon as possible, and that the expectant line of treatment should not be considered. If we wait until we are compelled to operate, we are placed at a greater disadvantage than if we had operated at once. Pus may be forming or septic changes may have taken place. In three other cases I have performed colpotomy—with no deaths,—and I much prefer the abdominal route. The pelvis of the native is small, it is relatively difficult to get at the parts by the vaginal route, and we cannot cleanse the parts so thoroughly, or see if all bleeding has ceased. Dr. Lockyer quotes Scanzoni's figures for the "expectant"

treatment of hæmatocele and the stay in hospital of such cases is only 15·9 days—this seems a remarkably short time. I wonder if any of these cases returned to hospital and were treated under the head of pelvic abscess?

Case I. Native Christian, age 23 years, married 12 years, age of last child two years seven months. Three children.

History. On the 27th August, 1897, patient felt a severe pain in the lower abdomen, for which she attended the Dispensary of the Free Church Mission in Black Town, and received some medicine to be taken internally. The pain continued all day, and was so severe on the 28th night that she fainted. The next morning she was taken to the Rajapuram Hospital, in a very low condition, where Dr. Anna Church diagnosed the probable rupture of a tubal gestation of the left side. After remaining in hospital for a short time, the T. rose from 95·6 F. to 98·4, and her pulse improved sufficiently to allow of her being conveyed to the Government Maternity Hospital, where she arrived about 4 p.m.

On admission she was quiet. T. was normal, P. about 110, and soft.

P.V. Cervix carried over a little to the right, rather soft. To the right of this a rounded swelling can be felt about the size of an orange quite low down (this turned out to be a blood clot). The uterus apppears larger than normal. To the left is a diffused swelling, suggestive of fluid blood, and the same to a less extent behind the cervix, which, however, is not carried forward, but is more or less central. Dr. Church, who examined her on the 27th, states she found a cystic swelling in close connection with the left horn of the uterus, and no swelling on the right. The swelling has become more diffused since then. A diagnosis of ruptured tube with hæmorrhage into the peritoneal cavity was made by Cl. Branfoot, M.B., under whose care she was placed, and as the patient had rallied from the effects of hæmorrhage and shock, it was thought advisable to operate at once.

Operation. Under A.C.E. mixture, a three-inch incision was made in the middle line, and on opening the peritoneal cavity a quantity of fluid blood poured out. The fingers were passed in quickly, and some blood clots swept out, after which a finger was passed down to the left of the uterus, which was in the centre of the pelvis and free. A good-sized swelling was found to the left of the uterus, it was at once drawn forward, and found to be the ruptured left tube and ovary, with much clot around it. The tube and ovary were secured with four loops of No. 4 silk, passed deeply in the broad ligament, and these structures cut away. Right tube and ovary were healthy. Large round clot lying on right side of pelvis also removed. Abdomen was sponged out and closed with silk sutures; a long drainage tube being left in at the lower part of the wound. During this operation the appendix cœci came prominently into view, and was found to measure over four inches and to contain a round worm which could not be pushed back into the gut and which seemed to be dead. An opening was made in the appendix and the worm drawn out. The appendix was then ligatured and removed, the peritoneal suffaces being drawn together over the end with a fine silk ligature.

Description of parts removed. The tube is very much distended, it is small at the uterine end, then bulges out suddenly to a size a little larger than a large thimble. On the upper surface at 1½ inches

from the uterine end, in a straight line, is a tear, nearly one inch in length, through which protrudes a bag of membranes containing a curved embryo about the size of a damson. At the fimbriated end of the tear is a clot which is detached with difficulty. This end of the tear is only about half an inch from the fimbriated extremity of the tube. The ovary is large and contains a large corpus luteum, nearly an inch in length; there is a thick lining of a yellow colour, and the cavity contains watery fluid.

The patient went on well; the tube was removed after 24 hours, and the patient was discharged on the 25th September, 1897.

She was re-admitted under my care on the 27th March, 1901, for pain in the lower abdomen, especially in the right side, and a red discharge from the vagina. Duration 10 days.

History. Has had amenorrhœa for the past two months, last period in January. Periods are regular, lasting three days and accompanied by no pain. She noticed a red discharge ten days ago; two days after the appearance of the discharge the pain commenced. She went to some dispensary in Black Town, where some medicine was applied to the uterus. A few hours after this she passed a small mass, like flesh, and the discharge was very profuse for two days. Passed also several clots. There is no milk in the breasts.

28th March. P.V. A swelling was felt on the right side of the uterus not very hard, does not go on to the pelvic wall. Red discharge on the examining finger. *Speculum.* No discolouration of the vagina, but the cervix is slightly discoloured. Sound passes to the left for nearly three inches; cavity dilated.

29th March. Under chloroform. P.V. An elongated swelling on the right side of the uterus reaching as high as the anterior superior spine of the right ilium.

Operation. Removal of ruptured extra-uterine gestation cyst and radical cure of incisional hernia.

There was a small hernial protrusion at the lower end of the old scar. An oval incision was made including the scar, and the tissues dissected up. At the site of the hernia, omentum was at once cut down upon. This was peeled off, tied and cut away. On opening the peritoneum black blood welled up. A considerable quantity was sponged up and clots cleared away. The uterus was enlarged and in front, and close to it on the right side was the ruptured sac. This was brought to the surface. On removing the clots from the end of the tube, smart bleeding took place. The broad ligament was pierced, ovary and tube surrounded by a double inter-locking ligature and tied. Considerable time was spent in clearing the pelvis. The ring of the hernial tissues was next cut away and the parts cleared. Deep sutures were passed through all the tissues of silk-worm gut, and there was a great strain on them; as it was the inner parts of the incision barely came into contact. A litre of salt solution was injected into the rectum and retained.

Description of parts removed. Right ovary considerably enlarged, and contains a very large true corpus luteum. Tube thickened and congested. The fimbriated extremity apparently

adherent to the ovary, and a small cavity is formed about ¾ inch long between them. The end of the tube is ruptured, and attached to it a large clot of the size of a lime is adherent; on detaching this clot active hæmorrhage took place. Chorionic villi cannot be made out for certain, and no embryo can be discovered. This is no doubt a case of tubo-ovarian gestation. The end of the tube was adherent to the ovary which formed one wall of the gestation sac.

The patient did well and left the hospital with the external wound well united on the 12th April, 1901.

Case II. Rasamah, Hindu, aged 35. Married 20 years, three children. Age of last child 10 years.

Confinements natural. Last menstruated two months ago, flow lasted two days. Micturition is accompanied by a smarting pain for the last four days. Appetite bad for the last four days and no motion for the same period. Has had no digestive derangement such as nausea or vomiting, nor any perversion of appetite. Always kept good health. She was employed in pounding rice on the evening of the 18th between four and six p.m. At eight p.m. she was seized with an agonizing pain in the lower part of the abdomen. It came on very suddenly, and from the first was of great intensity. Next morning she noticed uniform swelling of the abdomen, and the pain, which at first was confined to the lower abdomen, now became more general. There was no discharge from the vagina. The swelling has not increased or decreased in size. She was not sick nor did she become giddy. Since coming to hospital the pain has been better.

On admission. Patient is thin and ill-nourished and wears a very anxious expression. Tongue quite white, conjunctivæ anæmic, palms of hands waxy-looking. T. 99, P. 140. Decubitus on one side with both knees drawn up; breathes with some difficulty. Is not sick and retained all her nourishment. Enema given and bowels acted. Abdomen uniformly enlarged, umbilicus at level of skin, six inches and a half from right anterior superior spine and seven inches and one-eighth from left. Skin of abdomen shiny with numerous cracks, no enlarged veins or line of pigmentation. On palpation, abdomen tender throughout, no hard masses made out, but the hand cannot be pressed in. A boggy sensation is imparted to the examining fingers. *On percussion* the central part of the abdomen is resonant, the flanks are dull, and on being placed on her side, the uppermost side becomes resonant.

Auscultation no friction sounds or fœtal heart. *Breasts* distended slightly, on pressure a drop of serous fluid exudes. No secondary areola.

She was kept quietly in bed under observation and the pain slightly improved. On the 22nd she was placed under chloroform and a vaginal examination made. The uterus was found large and pushed away to the left. To the right was a swelling which was diagnosed as a ruptured tube and blood, and so abdominal section was performed. Directly the peritoneal cavity was opened a great deal of dark fluid blood ran out. The right tube and ovary were brought outside, a good deal of clot being attached to them. A portion of this was separated and at once oozing commenced from the torn tube. The broad ligament was pierced, and the tube and ovary encircled in a double interlacing ligature and tied, the parts encircled were then cut away. A great deal of blood had run back to the

sides of the abdomen, and a considerable time was spent in removing this, the head of the table being raised to allow it to gravitate towards the pelvis. The uterus was considerably enlarged, and there was some lymph adherent to the fundus. The left ovary was healthy *but the tube seemed very congested.*

Parts removed. Right tube ruptured in the middle third; a large blood clot attached to it. Chorionic villi found. Fimbriated extremity open, and a probe passed through it goes into the rent. A true corpus luteum found in the ovary of the same side. No embryo was discovered. She went on well after the operation, and was discharged from the hospital on the 2nd April, 1901.

Patient was re-admitted on the 2nd July, 1902, complaining of pain in the left side of the lower abdomen, with occasional attacks of giddiness, duration of symptoms twelve days. Since leaving the hospital in April, 1901, she has kept good health. Last menstruation two months ago.

Present state. Fairly well nourished; looks very pale. On trying to walk, feels very giddy, this feeling has become worse the last three days. No œdema. Tongue pale. P. 98, but volume good. T. 99·4. *On palpation* the left half of the lower abdomen is extremely tender. A soft semi-fluctuating tumour is palpable in the left side, no hardening or movements felt. No ascites. There is dulness on percussion on the left side of the abdomen below the umbilicus, and well marked dulness over the swelling.

P.V. Uterus lying back, but can be raised. Large tumour on left of uterus painful on pressure. Vaginal pulsation. Swelling seems to be very closely connected with uterus. *By speculum*: Slight pinkish discharge from uterus. Cervix blue and soft. Sound goes to the front, and the end of it can be felt a little to the right of the old incision; cavity seems dilated. Tumour closely connected with uterus. *Breasts*: no serous discharge can be expressed from them.

The patient was kept in the recumbent posture, and very quiet, but, as she seemed to become more anæmic, it was decided to operate. The pain, too, increased. At 7-30 a.m., on the 4th July, a rectal injection of beef tea and liquor pancreaticus was given, and after thoroughly cleansing the abdomen laparotomy was commenced at 8-20 a.m. The old incision was opened up, as it seemed rather weak; the scar was very thin and an incisional hernia would have formed in time. The omentum and gut were not adherent. On opening the peritoneal cavity, dark fluid blood at once welled up, and later bright blood was seen; evidently hæmorrhage was going on. Some clots and fluid blood were removed, and the left broad ligament seized with the finger and pulled up. A pedicle needle was passed through the ligament and the appendages tied in a double interlacing ligature. Before this was done an attempt was made to bring the tube and ovary to the surface, but from the tube which was either split before or during the handling very smart bleeding took place, and so the needle was passed. A pint of saline solution was run in under the left breast, as the patient was so pale. After tying the ligature, the tube and a portion of the ovary were cut away, but as bleeding continued from the stump and as a vessel was seen to be spouting near the uterine end of the tube, the pedicle needle was again passed under the former ligature and near to the pelvic wall, and another double interlacing ligature tied. Bleeding

then stopped, and the parts encircled by the first ligature together with it, were removed by scissors. The omentum which was adherent to the tube and covered with black clot was ligatured in sections and removed, a considerable amount being cut away. A good deal of blood had run up by the side of the spleen and liver and this was removed by sponges. The uterus was large and lobulated; on the right isde was a small pointed stump, the remains of the former tube. No sign of ovary or ligature was apparent. A litre of salt solution was injected into the rectum, and the external wound closed in three layers, the two inner by the fine continuous silk, and the external by interrupted chromic gut. The patient bore the operation very well.

Parts removed. Left tube and portion of left ovary. In the latter is a well-marked true corpus luteum. The tube has ruptured about its middle; a large ragged opening which admits the tip of the finger. The opening is surrounded by blood clot, and chorionic villi are seen at the edge. The tube is much dilated from here to the extremity. The sac is very much thinned out; fimbriated extremity open. There is a well-marked outline of a sac in the dilated portion of the tube. A round mass about the size of a golf ball was found free in the pelvis, it is simply a mass of blood clot, and no doubt filled the sac originally. Whether it was discharged from the sac before or during the operation I am uncertain. Chorionic villi are attached to it. A minute embryo about $\frac{1}{4}$ inch long is seen near the opening; it is attached outside the ruptured tube. The patient recovered and left the hospital on the 14th September, 1902, but her recovery was retarded first by an abscess forming at the site of the saline injection, which in the hurry was made *into* instead of *under* the breast. I was intent on the operation and did not watch what was being done. And secondly, the fine silk ligatures of the external wound set up irritation, and finally came away unabsorbed. This fine silk has always given me trouble, and since reading Mr. Barber's suggestion, I have used nothing but Coats' cotton (No. 40), with the best results.

ON CHORIONEPITHELIOMA AND THE OCCURRENCE OF CHORIONEPITHELIOMATOUS AND HYDATIDIFORM MOLE-LIKE STRUCTURES IN TERATOMATA. A PATHOLOGICAL AND CLINICAL STUDY.

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PART II.

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ÆTIOLOGY, DIAGNOSIS, PROGNOSIS, TREATMENT.

THE chief problem of deciduoma malignum, as of other tumours, is how to make our observations of its nature and origin applicable in the treatment of the patient. The aim of this section will be to glean from the preceding all that bears on this question and correlate it with the results of an exhaustive investigation of the literature directed chiefly towards the same end.

The record of the four cases shows that the diagnosis of deciduoma malignum early enough to offer a reasonable chance of successful treatment, yet avoiding the danger of unnecessary radical operation, is not altogether easy. Many of the cases are sufficiently straightforward. Speaking generally, the early symptoms and signs in no way differ from those of retained placenta or sub-involution; but they do not yield to treatment, the patient becomes gradually (often rapidly) more and more gravely ill. The violence of the hæmorrhages especially awakes suspicion, and finally microscopic examination of removed tissues or the appearance of metastatic growths settles the question. Now that the condition is well known, such cases should not escape detection, and radical treatment at an early period.

There are aberrant cases which present special difficulties. Some of these will be referred to in the sequel, but they are the rarities. The really important cases for the elucidation of which the physician must bring into action all his diagnostic armamentarium, both clinical and pathological, are those in which the diagnosis lies between simple hydatidiform mole on the one hand, and malignant (or destructive) hydatidiform mole and chorionepithelioma with presence of villi on the other.

Ætiology. This is as mysterious as that of other tumours; the papers of Marchand,[94] Schlagenhaufer and Veit's *Handbuch* should be consulted by those who wish to study the problem. A few points may be referred to here. The age incidence of the disease is peculiar, differing from that of either carcinoma or sarcoma. The average age of the patients is about 33. This corresponds to the period of greatest sexual activity; the frequency of cases in the different decades is approximately proportional to the frequency of births in the same period. There seems to be slight rise at either end of the child-bearing period, which may be related to the tendency of the immature uterus and that which is nearing the end of its functional life, to produce abnormal conceptions, especially hydatidiform moles. Out of 169 tumours, 6 occurred between 17 and 20 years (three following moles and two being tubal); 73 between 21 and 30; 54 from 31 to 40; 28 from 41 to 50; and 9 from 51 to 55; 22 cases occurred in women over 45. Of these, 16 followed hydatidiform moles, 4 abortions, and 2 confinements at term. Of the 9 included in this number which occurred beyond 50, all followed mole with the exception of the case of McCann, in which apparently there had been no pregnancy for 9 years.

As regards the nature of the preceding pregnancy analysis of the 188 cases summarised shows 74 after mole; 58 after abortion; 49 after full-time confinements (3 somewhat premature ones being included); and 7 tubal or ovarian. The great majority of the cases therefore followed an abnormal pregnancy; but yet a considerable number followed a delivery at term, which was generally described as having been perfectly normal. So many of the patients, moreover, enjoyed perfect health up to the fatal pregnancy, that it seems unjustifiable to regard preceding illhealth as an important factor. Some of the "abortions," I would suspect to have been really the throwing off of the mass of blood-clot and necrosed tissue, which forms the greater part of the tumour. If this were so, the number which followed normal pregnancy would be somewhat increased. Possibly, too, the premature expulsion of the ovum is frequently not

the condition, but the result of the commencement of malignant deviation.

Hydatidiform mole, however, occurs in such a large proportion of cases that it must be regarded as of special significance as a predisposing condition. The cause of the hydatidiform mole itself is obscure.

The proportion of hydatidiform moles to normal labours is given by Gebhard (quoting König) as 1 to 728; by Williamson (St. Bartholomew's Hospital) as 1 to 2,400. The proportion of tumours to molar as compared with normal pregnancies is therefore a high one, yet the proportion of tumours to moles is probably not above 1 to 1,000 (Berry Hart). The performance of hysterectomy in these cases lest the tumour should develope, is therefore absolutely unwarrantable apart from special indications. I did not notice repeated hydatidiform mole recorded in any of the cases; in two there had been an innocent mole, but the tumour followed an abortion in the one case, a normal confinement in the other.

The parasitic causation of chorionepithelioma has not received much attention. The usual cell inclusions are common; the tumour cells being markedly phagocytic. Fig. 18 shows two little bodies enclosed in clear round spaces in a mass of syncytium, which resemble some of the so-called cancer parasites. I interpret them as the earliest stages of vacuolation.

Lessened resistance on the part of the maternal tissues due to excessively frequent pregnancies, endometritis, defective formation of the decidua, especially the fibrin layer, have all been suggested as causal conditions. On the other hand, a primary fœtal cause has been supposed for the heightened activity on the part of the trophoblast, which appears to be capable of preserving its embryonic powers of growth in many cases to the end of pregnancy, or even of resuming them after that time, *vide* Peters (No. 130). I fear that, in spite of the intermediate stages between the mole and the tumour, we are not yet able to strip the mystery off the latter; we must infer that some unknown quantity has been added in those cases which develop into malignant growths.

Clinical signs and symptoms. The most constant is hæmorrhage, characteristically irregular in its recurrences, sudden, and severe. About equally constant is discharge:—serous, sanguineous or brown and putrid. Hæmorrhage has been almost absent in six cases, but the other symptoms were sufficiently striking in all. These are wasting, weakness and anæmia amounting to cachexia, and rigors. Between the termination of pregnancy and the onset of disease,

there is frequently an interval of quiescence, but in 54 cases (exclusive of malignant moles) out of the 188 summarized, the disease ran continuously with the pregnancy, or severe bleeding occurred within less than 14 days. In other 35, it appeared within a month. In only eight was there more than a year's interval, and in these it is difficult to exclude the occurrence of a fresh pregnancy. In several cases, menstruation had been re-established and in four (Holleman, Löhlein, McCann, Treub-Doormann) the menopause was supposed to have been passed in the interval.

Rigors are not uncommon, and have been taken to mean the occurrence of sepsis. In this way they may prevent the recognition of the true nature of the disease, *e.g.*, Case 2. Probably in some cases, just as in other forms of malignant disease, they do indicate some septic absorption, which the presence of a putrid mass in the uterus may well account for. But in others they seem to be related to the occurrence of metastasis. In several cases, the primary and the secondary tumours have been carefully examined for microbes. They were found only in the superficial parts of the primary foci; and their presence is certainly not an essential feature of the disease.

Pelvic pain has been noted in a few cases. Cough and hæmoptysis may occur very early and naturally suggest phthisis pulmonalis, but when they are associated with uterine symptoms in a recently delivered woman, they should always awaken other suspicions. Curetting and microscopic examination of the removed tissues would probably decide the matter at once; Cf. Pestalozza (129). *Post-mortem* examinations prove that they signify metastasis to the lungs.

The impossibility of drawing a sharp distinction on histological grounds between the villi of simple hydatidiform mole and those of chorionepithelioma or malignant mole has been insisted on. This fallacy notwithstanding, one can hardly overestimate the value of the histological test in these cases. Now that the fallacy is known, it should not give rise to much trouble. Still, the rule that the diagnosis should not be allowed to rest on the microscopical evidence only does not apply less strongly to chorionepithelioma than to other tumours. There seems to be little danger of this occurring, for only too frequently, even in the history of recent cases, the statement is made that portions of retained placenta were removed and thrown away without being submitted to microscopic examination. Then after a loss of weeks or months, when the clinical signs have become so urgent that hardly a doubt remains, the diagnosis is established by this means, but too late. Krebs for example points out that four months was probably lost in the case which he described

through microscopic examination of the curettings being limited to the identification of them in the fresh state as placental tissue. In the case of Austerlitz, the warning actually was given, but was disregarded, while in the case of Graefe, radical operation was delayed because villi were present.

As a matter of routine, in all cases with suspicious clinical history, the whole of the curettings should be submitted to the pathologist *in proper condition*. Where a mass of currettings is available, it should usually be possible by a careful search in saline solution to find material which will give a valuable result. Where, on the other hand, a few fragments are removed "for microscopical examination," if the case be deciduoma, one is rather apt to obtain only the superficial clots. Even in them, however, masses of large degenerated cells such as those shown in Fig. 25 may be found, which, if not distinctive of chorionepithelioma, would at least suggest the presence of some malignant growth; this in conjunction with the clinical signs would be enough for practical purposes. When masses of tissue such as those figured (Fig. 6 to 12) are found, apart from villi two or three weeks after confinement, the diagnosis of chorionepithelioma may be given with confidence. Where villi are present the case is very different. The danger of malignant mole must not be forgotten, but greater weight should be given to the clinical signs than to the microscopical evidence.

The histological characters which have been supposed to indicate malignancy have been considered on page 45, *et seq.*

"Neumann's cells" have been referred to. These are large cells like syncytial wandering cells, which are found in the stroma of the villi, usually just under the epithelium. Julius Neumann described them in his early cases as indicating malignancy, but later investigations have quite discounted their significance. Ruge and Pick found them in cases of non-malignant mole. Poten and Vassmer found them in the non-malignant case referred to on page 68. I have found them in a mole which proved perfectly innocent as well as in the doubtful case No. 3. Schlagenhaufer and Peters hold that they have no prognostic value. They were absent from the malignant mole described by Marchand in his second paper, and Voigt in his malignant mole found them sparingly, and considers them of no account.

The precise amount and character of epithelial overgrowth that would warrant a diagnosis of malignancy cannot be laid down. Fig. 5 is from a case of Marchand in which suggestive symptoms led to curetting and undisturbed recovery followed. Berry Hart has

recently published very smilar photographs from a case whch had a like happy issue. On the other hand, the case from which Fig. 9 (also a preparation given to me by Professor Marchand) was taken, was a typical chorionepithelioma.*

Tumours simulating chorionepithelioma in microscopic structure hardly need consideration. Syncytial conditions of the uterine gland epithelium are known, but do not present any close resemblance. A carcinoma was shown to me by Veit in which the cell forms were most faithfully reproduced, and Fig. 26—which I am able to publish through the kindness of Professor Muir—is from an identical tumour which occurred in the Western Infirmary, Glasgow. The mode of growth is, however, totally different, being typically carcinomatous.

A few peculiar cases presented difficulties in diagnosis. These were the tubal ones, two in which the primary tumour was not definitely located (Busse and Schmorl-Fiedler) and the cases of Chrobak and Holzapfel in which a uterine tumour lay imbedded in the wall. In the last two, curettings gave a negative result. Operation in the former case was done on the strength of the clinical signs; in the latter, microscopic examination of a vaginal metastasis revealed the nature of the case. The cases in which cerebral tumour was discovered at the *autopsy* have already been considered.

Prognosis. As already mentioned, although the prognosis in cases of deciduoma malignum on the whole must be regarded as bad, it is recognised that it is by no means so hopeless as was supposed from the records of the earlier cases. In a very large number of the fatal cases no radical operation was performed, and the treatment was confined to repeated curettings. Generally this was followed by temporary cessation of the uterine symptoms, but after a time signs indicating involvement of the lungs appeared, and a rapid fatal termination ensued.

The cases in which a primary tumour was found in the vaginal veins while the uterus was sound form a group which is particularly interesting in reference to the practical questions. Doubt as to the fallibility of the histological diagnosis had hardly been expressed up to the description by L. Pick of the first case of primary vaginal tumour with sound uterus.

In this case a small nodule somewhat resembling a thrombosed varix was found in the vagina in a patient four months pregnant. This was excised, or, more strictly speaking, torn out. Three days later, a large

* Case of Marchand and Günther; Risel, No. 2.

hydatidiform mole was expelled from the uterus. The wound in the vagina healed rapidly. Histological examination, however, showed that the varix was actually a mass of hydatidiform villi imbedded in a capsule of blood-clot. Hysterectomy was suggested, but the patient refused operation and disappeared. Three and a quarter years later, she was found in blooming health, four months pregnant, and five months later she gave birth to a fine girl.

Pick concluded that here was an example of a villus which had been given off by a simple mole, and instead of disappearing harmlessly from the circulation like ordinary deported villi, had formed a metastatic tumour, but not a malignant one. He compared it with Neuman's cases (115 and 117), in which there was chorionepithelioma with villi in the uterus and mole in a vaginal metastasis which appeared during the pregnancy. In both of these cases, excision of the uterus and secondary tumours was followed by perfect recovery. He spoke of the condition as chorionepithelioma benignum.

At the same time, however, Schmorl demonstrated a primary vaginal tumour which appeared 18 weeks after a normal birth. The uterus, tubes and ovaries were quite free from tumour. This patient died six months after the confinement, with secondary growths in the lungs, liver, kidneys and intestines. There were no villi in the growth. Apparently in this instance there was a malignant metastasis from an apparently innocent placenta. In regard to the origin of such tumours, the view that the escaped trophoblast developed malignancy in its new seat appears to me more probable than that a malignant ovum, after giving off metastatic growths, was expelled from the uterus. Other primary vaginal cases which ran a benign course have been recorded by Schlagenhaufer and Schmit (No. 1) connected with hydatidiform mole, and by Schmit (No. 2) with abortion.

On the other hand, in the cases of Hübl and Wehle (2 cases) after normal confinements, Lindfors and Vestberg, after a somewhat premature but otherwise normal confinement, and Peters after abortion, excision of the primary vaginal growth was followed by rapid recurrence and fatal result. The cases of Zagorjanski-Kissel[186] and Langhans[80] are referred to later. The opinion of Schauta expressed in the discussion on Hübl's case is probably not far wrong, viz., that the favourable results in the earlier cases of this sort observed in Vienna were due less to inherrent benignity than to their position early attracting attention, which led to their early removal.

This series of cases thus also illustrates the remarkable fact that the tumours related to hydatidiform mole are much less malignant

than those related to a pregnancy carried to the full term. There is as yet no explanation of this fact. Perhaps it will be obtained when the placentæ have been kept and examined microscopically. This has not yet been done, but it is recorded in several cases that to the naked eye the placenta appeared to have come away entire, and to have been perfectly normal. In very few cases were there signs of anything wrong during pregnancy.

In those of Williams and Schlagenhaufer (second), however, the disease does appear to have commenced during the pregnancy.

In the former the patient, who had passed through several previous normal confinements, felt apprehensive during the pregnancy. The child was born dead and the patient was very prostrated after the puerperium. The placenta was noted as being soft and boggy. There was no special hæmorrhage after its expulsion, but within a week a secondary tumour appeared in the vagina which grew rapidly and sloughed. Death resulted within three months from hæmorrhage and, apparently, septic absorption. The post-mortem examination showed wide dissemination of secondary growths; cultures from liver, lungs, spleen, and kidneys were tried but were sterile.

In Schlagenhaufer's case

the patient complained in the later months of pregnancy of pains in the pelvis and left side, and attacks of breathlessness, and she was low-spirited, languid, anæmic, and of a yellowish pallor. The confinement was rapid. The placenta was expelled spontaneously and appeared quite normal. The patient improved somewhat after the confinement and was able to suckle the child. The lochia were practically normal. The child was weakly from the first, and died in about three weeks. The mother, within 17 days from the birth, suffered from extreme dyspnœa, had a rise of temperature, cough and rusty spit, which were supposed to signify an attack of pneumonia. Thirty-four days after the confinement she died, and examination revealed a tumour of the uterus and innumerable secondary tumours in the lungs, spleen, kidneys, and vagina. The clinical history in its later stages suggested an acute pyæmic process. Microbes were found in the necrotic tumour in the uterus, but only on the surface. The metastases were quite free from bacteria and undoubtedly the wide extension of the tumour and not sepsis was the cause of death.

Almost equally malignant were the cases of Cock—death in 8 weeks from a normal birth; the case of Baldwin already referred to (page 6) Eugene Fraenkel's second, in which the symptoms appeared within 7 days and death resulted in $2\frac{1}{2}$ months. In all of these, no operation was done, the disease running such a rapid course that interference was regarded as hopeless. A number of cases equally malignant have followed abortions, *e.g.*, Kelly and Teacher, and Simmonds, but more of them have run a comparatively slow course like that described in cases 1 and 2.

Among the molar cases there are a number of a very malignant type which were pure chorionepithelioma without villi, but still more malignant are those to which the term destructive hydatidiform mole applies. As typical examples of such may be taken the old Wilton case, and those of Voigt (which recovered), Gottschall, Krieger and Waldeyer.

In the case of Wilton,

the patient suffered from repeated flooding, and the uterus enlarged very rapidly, as is usual in hydatid mole cases, but the termination came suddenly from rupture of the uterus and hæmorrhage into the peritoneum in the fourth month of pregnancy.

In the case of Gottschall,

an apparently simple abortion cleared out manually was followed by rupture of the uterus on the patient making an effort three months after the operation, and death resulted from shock and hæmorrhage in a few hours. In this case rupture of a tubal pregnancy was diagnosed and laparotomy was performed. The abdomen was found full of blood-clot; the uterus was the size of the fœtal head at term. It was ruptured across the fundus and out of the rent in it protruded clots and the vesicles of a hydatidiform mole. As post-mortem examination was not allowed, it is not known whether metastasis had occurred, but in the uterus the villi burrowed deeply into the muscle, and plugs of typical chorionepithelioma were seen in the blood vessels.

Such cases spoil the otherwise relatively fair prognosis in the cases following hydatidiform mole.

On the other hand, there is now quite a large series of cases in which operation has been done with favourable result in spite of the fact that metastasis had already occurred. In several cases there were actual extensions of the tumour which it was found impossible to remove. Such are the cases of Marchand,[94] Kolomenkin,[69] Albert[3] (the only tubal one which recovered) and the second case of Noble. In the last, a mass was left adhering to the fundus of the bladder. This was felt on examination 3 months later, but 5 months later it had disappeared and the patient was perfectly well.

In the cases of Chrobak,[24] von Franqué,[33] Zagorjanski-Kissel,[186] Ladinski,[78] Kworostansky,[77] Lonnberg and Mannheimer,[91] Neumann-Schauta,[115] Pestalozza (No. 5),[129] the presence of metastasis in the lungs was inferred from hæmoptysis and cough and the general condition of the patient. In the last mentioned, the case was supposed to be phthisis, but other symptoms directed attention to the uterus which was found to be enlarged. Curettings were removed, which microscopic examination showed to be deciduoma malignum. The uterus was removed and the phthisical symptoms disappeared.

In the third case of Neumann, and those of Holzapfel, Lonnberg and Mannheimer, and Poten and Vassmer metastasis was also present in the vagina. In that of Cazin-Segond the ovary contained a secondary tumour. The secondary nodules were removed along with the uterus. Chrobak's case was reported well shortly after the operation. The others were reported well at periods varying from six months up to one year and five months in the case of von Franqué, and two years and nine months in that of Marchand. In reply to an enquiry by letter, Dr. Ladinski has informed me that his patient is still living, more than 19 months after the operation. In this case the patient was extremely weak and ill, but the operation was nevertheless undertaken in view of the good result in the case of von Franqué.

In the case described by Zagorjanski-Kissel, the tumours were present in the vagina two weeks after an abortion in the third month. Diagnosis of primary vaginal tumour with sound uterus was made by Landau and Pick. Both nodules were excised and the uterus curetted. Nothing suspicious being found in the latter, it was not removed. The patient's health improved immediately. She had had rigors and hæmoptysis which, after a few days, ceased. The physical signs in the lungs were negative throughout. Eight months after the operation she had an abortion in the sixth week, and at 15 months she was three months pregnant, and, while not in the best of health, showed no sign of recurrence of tumour.

Spontaneous healing of a vaginal tumour occurred in Langhans' second case. A supposed primary vaginal tumour was removed. It recurred in a fortnight. The recurrent tumour burst a week later, threw off a slough, and healed. Hæmorrhage from the uterus occurred a few weeks later. It was curetted, a number of villi removed, and she got well and was reported well 10 months after.

But the strangest case of all is that of von Fleischmann, published in April, 1903.

On May 5th, 1899, a hydatidiform mole was removed. Thirty days later, there was a hæmorrhage which gave rise to the suspicion of deciduoma malignum. The uterus was curetted. Microscopic examination gave a negative result and the condition was therefore regarded as subinvolution. Thereafter for eight or nine months she menstruated regularly. Then the periods became less and occurred less often, and, after two years, they ceased entirely. Six months later, on February 12th, 1902, the patient applied for treatment, complaining of amenorrhœa and general loss of health. She did not regard herself as pregnant. Examination revealed a characteristic tumour in the vagina. The uterus was ante-flected and of the size of a six to eight weeks pregnant organ. The uterine appendages were normal. The patient refused radical operation, but allowed removal of the vaginal tumour.

A week later there was severe arterial hæmorrhage from the wound,

and two days later renewed hæmorrhage from the wound and from the uterus. As there was a doubt whether the uterus contained a normal ovum, a mole or a tumour, the os was dilated and the contents cleared out with a blunt curette. Suddenly the curette passed very deeply in towards the right. Perforation was diagnosed. The uterus and vagina were plugged with iodoform gauze. The microscopic investigation of the vaginal tumour showed a growth consisting of large polymorphous cells which were regarded as chorionepitheliomatous. Extirpation was not performed. Septic infection happily did not occur.

About 10 days later, on March 2nd, there was renewed bleeding from the vagina. The artery from which it came was detected and ligatured. The patient had become very anæmic. On March 18th, the vaginal wound was healing and the uterus was becoming smaller. To the right of the uterus there was a resistant mass of considerable size. On the 20th, the patient, by her own wish, was allowed to return home. On June 23rd she reported herself. Subsequent to her dismissal there had been no hæmorrhage. She felt and looked well. There was a small pale scar in the vagina. The uterus was small and movable.

Menstruation returned in September and she reported herself well on December 8th, 1902—10 months after the operation.

The impression of the tumour elements which I take from the description and the illustrations is that they resembled those of the cell masses in case No. 2, *i.e.*, they were of the forms intermediate between Langhans' layer and syncytium, and for the most part they presented characters which suggest some degeneration. Fleischmann regarded the case as a very atypical infiltrating chorionepithelioma, and in this opinion Marchand, to whom the sections were submitted, concurred.

The remarkable features in the clinical history are:—

1st. The long latent period. The relationship to a preceding pregnancy Fleischmann holds quite certain. If the tumour were referred to the mole, the latency would be two and three-quarter years, but it is possible that the amenorrhœa for six months before it was discovered indicated a renewed pregnancy.

2nd. The comparative absence of hæmorrhage.

3rd. The perforation of the uterine wall by the curette.

4th. The recurrence of bleeding after the extirpation of the vaginal tumour. Evidently the growth had not been completely removed.

5th. The healing of the vaginal wound and the restoration of the uterus to its physiological condition as shown by the return of menstruation and the uninterrupted recovery of the patient.

The case is a remarkable illustration of the vis medicatrix naturæ, but v. Fleischmann regards it as highly exceptional in view of the general malignancy of chorionepithelioma. This and the case of Langhans are the only examples so far as I am aware of spontaneous recovery in this disease, and there is no obvious explanation of it. Certainly there was no killing off of the tumour elements by hæmorr-

hage in this case. As a mere speculation one might put forward the hypothesis that in certain cases the tumour retained the tendency of its physiological prototype to grow actively for a limited period and then gradually to undergo a retrogression.

Statistics of Cases.

In the 188 cases radical operation was performed 99 times.*

Table I. All Cases.

Preceding Pregnancy.	No. of Cases.	Deaths.	Recoveries.	Percentage of Recoveries.
Hydatidiform mole ...	73	39	34	46·6
Abortion	59[1]	38[3]	20	33·9
Confinement at term ...	49	39	10	20·4
Tubal or ovarian	7	5[2]	1	
All cases	188	121	65	34·2

1. Two cases in which preceding condition is not known to me and two in which there was a doubt as to abortion or normal birth have been placed here.
2. The result in the case of Nikiforoff is not known to me.
3. Result of Metoz No. 2 is not known to me and not counted.

Table II. Cases Submitted to Radical Treatment.

Preceding Pregnancy.	No. of Cases.	Deaths.	Recoveries.	Percentage of Recoveries.
Hydatidiform mole ...	42	9	33	78·5
Abortion	36	16	20	55·5
Confinement at term...	19	10	9	47·3
Tubal	2	1	1	
All cases	99	36	63	63·6

Of the 3 deaths, 11 occurred within a few days; these may be set down as incidental to the weakened condition of the patient by the time operation was undertaken, and such complications as tremendous hæmorrhage on the attempt being made. There are several cases in which radical operation had to be abandoned on account of this. Twenty-five died after a longer or shorter interval; in the cases which came to post-mortem examination this was due to recurrence in internal organs. In 16 of them there was no marked improvement or interval of good health after the operation. In nine there was good recovery, and in five an interval of several months' good health before rapid recurrence of the disease and death. In five only did the disease recur at a longer interval than six months. The longest was in the case of Löhlein—1 year. When the

* Correction in press. Hysterectomy was performed in the case of v. Graefe also, but patient died the same day. This case is not considered in the table.

63 recoveries are examined it is found that 32 were reported well six months or more after the operation; out of this number 24 remained well for more than a year, and of these again 13 more than two years.

Knowing the tendency to report successful operations while the failures are sadly laid aside, it is more than probable that the above statistics convey far too favourable an impression of the results of operation. Nevertheless, it is clear that deciduoma malignum is not the hopeless disease it was once taken to be. Further, the list of cases beginning with those of Neumann and Schauta, and von Franqué, and ending with that of Zagorjanski-Kissel, in which operation was done in the face of metastasis having occurred, proves that no patient need be abandoned to her fate who seems the least likely to stand operation.

Treatment. A dissertation on treatment by a pathologist would be out of place; but a few points may be touched upon.

In the "Operations Table" where the contrary is not specified, vaginal hysterectomy has usually been performed. The possibility of the manipulations favouring metastasis has been suggested; Dr. Edgar felt that this might occur in his case, where the tumour was large relatively to the outlet. Hitschmann supposed the manipulations to have caused the general dissemination which appeared to develop rapidly after the operation in his case (No. 47).

It is hardly necessary to insist on the importance of early diagnosis and treatment, in spite of the fact that favourable results have been obtained in many cases of the more chronic type, even after the disease had been in existence many months, *e.g.*, the cases of Lewers and Sticher. Two-thirds of the successful operations were performed within three months of the appearance of symptoms.

Classification. It is generally agreed that the best classification of tumours is that which takes as its basis the nature and origin of the tissue from which they spring. The tendency of recent research has been to show that this is the least inconstant point of distinction between the atypical forms of the epithelial as against the endothelial and the connective tissue tumours.

Chorionepithelioma, on this basis, belongs to the epithelial group. But, as I have shown, it differs in its structure and mode of growth and dissemination from the typical epithelioma or carcinoma. When its source is considered the difference is sharper still. The trophoblast or chorionic epithelium cannot be classed along with the epithelial tissues of the body. It is differentiated and specialised before the stage of the three-layered blastoderm is reached, and even in some animals (including man apparently) before there is any hint

of an embryonal anlage at all; and it takes no part in the formation of the body. It is not a tissue of the maternal body, but a parasite upon the maternal organism; nor is it a tissue of the fœtal body. Physiologically also it is quite peculiar.

The tumours to which it gives rise are, therefore, something different developmentally and physiologically from either carcinoma or epithelioma—they form a class apart. *Chorionepithelioma malignum* may be a cumbrous name, but it is the most appropriate. Of the other terms in use *chorioma*, which has been employed by some American writers, and *chorion carcinoma* are the least objectionable. *Syncytioma* considers only one of the essential elements, and the "pure syncytial" tumour, if it exists at all, is an unimportant variety. *Carcinoma syncytiale* is absolutely wrong; it is a suitable name for the tumour illustrated in fig. 26. The old name *deciduoma malignum* has such a hold that it might be retained for clinical use along with the pathologically correct designation *chorionepithelioma* malignum sui generis.*

Summary of conclusions. I think it is proved that:—

(1) The so-called deciduoma malignum is a tumour arising in connection with a pregnancy, and originating from the chorionic epithelium (or its forerunner the trophoblast), which is of fœtal epiblastic origin.

(2) That these tumours form a quite characteristic group clinically, pathologically and developmentally; and that they should be classified neither as sarcomata nor as carcinomata, but as a distinct group *sui generis*. The most appropriate name is chorionepithelioma malignum. Malignant hydatidiform mole may be treated as a variety of this disease.

(3) That, in addition to the common tumours developing from a pregnancy, there are tumours containing precisely similar structures which are not connected with a pregnancy, and may occur in other parts of the body than the uterus, and in either sex. The most probable explanation of them is that they are teratomata, originating from some structure which has the morphological value of an included matured and fertilized ovum, and the chorionepitheliomatous tissues represent the actual trophoblast (chorionic epithelium) of the included ovum.

(4) That special care must be exercised in the diagnosis between cases of hydatidiform mole and chorionepithelioma arising in connection with that condition.

* Or Chorio-epithelioma.

(5) That while the prognosis in all cases of chorionepithelioma is a grave one, early recognition and early radical operation offer a fair chance of recovery. The fact that metastasis has occurred does not necessarily preclude successful operation, although it materially diminishes the chances of success.

Statistical Tables.

A few words of explanation of the following tables are necessary:

Table I. contains the principal facts about 189 cases* of chorionepithelioma and malignant hydatidiform mole, of which a sufficiently detailed account has been accessible to the author, and about the nature of which there seemed to be no doubt. In a large majority of the cases the original report has been consulted.

Table II. is a list compiled from Table I. of the cases in which radical operations were performed, and the most essential data.

The headings of the columns for the most part need no explanation. Corresponding to the numbers in the *first column* are the reference numbers in the first part (list A) of the bibliography. In *column 4* all the pregnancies, including that which immediately preceded the tumour are enumerated. "Birth" has been employed as the shortest and most convenient equivalent for confinement at term. Abortion is used in the customary sense; a number of cases in which the nature of the preceding pregnancy was not clear have been placed for simplicity under this heading. "Mole" is used with the meaning hydatidiform mole, as is commonly done in Germany. The meaning of the periods mentioned and the dates from which they are reckoned is explained in the footnotes in sheet 1 so far as is necessary.

The cases of Blumreich, Boldt (2), Bulius (1 and 2), Freund, Monod Chabry and Macaigne, and Paviot, which were included by Ladinski, have been rejected as not chorionepitheliomata, as well as a number of other cases which have been formerly rejected by other tabulators, viz., the cases of Beach, Blanc, Klotz, Küstner, R. Maier, Superno, and Zahn. Menge's second case has been allowed to stand, but the opinion of the author himself on it is quoted. Five apparently genuine cases wanting details are mentioned at the end of Table I.

* Davis and Harris added during the Press.

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TABLE II.

No.	Reporter.	Last Pregnancy.	After first Symptoms.	Result.	How long after Operation.	Remarks.
3.	Albert (1)	Tubal.	?	R.	Some mos.	*Removed in pieces.*
4.	Albert (2)	B.	8 wks.	R.	Some mos.	
7.	Apfelstedt & Aschoff.	Ab.	6 mos.	D.	4 wks.	General metastasis.
9.	Austerlitz.	Ab.	10 mos.	D.	4 mos.	Recurrence in lungs.
11.	Baldwin	B.	8 wks.	D.	6—8 wks.	
13.	Brothers	Ab.	4 mos.	R.	Some wks.	
14.	Buist	Ab.	4 mos.	D.	28 hrs.	
15.	Buist	Ab.	3½ mos.	D.	2 mos.	Generalised metastasis.
16.	Buschbeck	M.	7 mos.	R.	2 mos.	
19.	Cazin-Segond	M.	6 mos.	R.	3 yrs.	*Secondary in ovary.*
24.	Chrobak	Ab.	4 mos.	R.	Soon.	*Signs of metastasis.*
27.	Crossen & Fisch	M.	5 wks.	R.	6 mos.	
31.	Fraenkel, E. (3)	M.	4 wks.	R.	7 mos.	
33.	Franqué, V.	B.	3½ mos.	R.	17 mos.	*Signs of metastasis.*
34.	Gebhard (1)	B.	4 mos.	R.	11 mos.	
35.	Gebhard (2)	M.	4 wks.	R.	Soon.	
37.	Gottschalk	Ab.	6 mos.	D.	7 mos.	Recurrence in brain?
41.	Guérard	M.	2½ mos.	R.	3½ yrs.	
44.	Haultain	M.	7½ wks.	R.	5 yrs.	
47.	Hitschmann	Ab.	4 mos.	D.	3 wks.	Generalised metastasis.
48.	Hollemann	M.	6 mos.	R.	4 mos.	
49.	Holzapfel	Ab.	?	R.	2 yrs.	*Metastasis in vagina.*
50.	Horrocks	Ab.	5 mos.	D.	6 mos.	
51.	Hubbard	Ab.	3 mos.	R.	6½ mos.	
52.	Hübl (1)	B.	1 mo.	D.	1 mo.	
57.	Jeannel	Ab.	2 mos.	R.	?	
58.	Jörgenson	Ab.	Soon.	R.	1 yr.	
59.	Jurassowsky	M.	? long time.	D.	Soon.	Metastasis in brain.
63.	Karström & Vestberg	M.		R.	Soon.	
64.	Karström & Vestberg	Ab.		R.	Soon.	
66.	Kleinhans	?	?	R.	?	*Metastasis in vagina.*
69.	Kolomenkin	B.	?	R.	6 mos.	*Metastasis had occurred.*
75.	Kuppenheim	B.	2 mos.	R.	2⅓ yrs.	
77.	Kworostansky	Ab.	6 wks.	R.	4½ mos.	*Metastasis in lungs?*
78.	Ladinski	M.	9 wks.	R.	18 mos.	*Metastasis in lungs?*
79.	Langhans (1)	B.	8½ mos.	R.	1 yrs.	

No.	Reporter.	Last Pregnancy.	After first Symptoms.	Result.	How long after Operation.	Remarks.
81.	Langhans (3)	M.	2½ mos.	R.	7½ mos.	
82.	Laver & Wilkinson	Ab.	7 mos.	D.	2 mos.	Metastasis: Sepsis.
84.	Leopold	B.	?	R.	Soon.	
85.	Lewers	Ab.	11 mos.	R.	5 yrs.	
86.	Lindfors	Ab.	3 mos.	D.	5 dys.?	See Table I.
87.	Lindfors	B.	1 mo.	D.	7 mos.	Recurrence, general.
89.	Loehlein	M.	7 mos.	D.	1 yr.	Recurrence, lungs.
91.	Lonnberg & Mannheimer.	M.	1 yr. at least.	R.	1½ yrs.	*Metastasis in lungs?*
93.	Marchand	B.	5 mos.	R.	2¾ yrs.	Thrombosed vein left.
94.	Marchand (2)	M.	2 mos.	R.	2 mos.	
98.	Marchand (6)	M.	2 mos.	R.	Soon.	
99.	Martin & Kieffer	Ab.	14 mos.	R.	Soon.	Patient was very cachectic.
100.	McCann	Ab.	5 mos.	D.	6 dys.	
102.	McMurtry	Ab.	6 wks.	R.	Soon.	
105.	Menge (1)	M.	2 mos.	D.	6 mos.	Recurrence, general.
106.	Menge (2)	M.	2 wks.	R.	1 yr.	Doubtful if Deciduoma Malig.
107.	Menzel	B.	3 wks.	R.	8 mos.	Perforation of uterus.
108.	Metoz (1)	M.	1 wk.	D.	2 dys.	
111.	Morales-Arjona	?	?	R.	1 yr.	
112.	Morrison	B.	9 wks.	D.	5 mos.	Recurrence in lungs?
113.	Müller, E.	M.	4½ mos.	R.	6 mos.	
115.	Neumann (1)	M.	2 wks.	R.	2⅛ yrs.	*Metastasis in vagina.*
116.	Neumann (2)	M.	Malig. Mole.	D.	12 dys.	Pneumonia.
117.	Neumann (3)	M.	2 wks.	R.	2 mos.	*Metastasis in vagina.*
118.	Neumann (4)	B.	4 mos.	D.	3 mos.	Recurrence in lungs.
119.	Neumann (5)	B.	?	D.	6 mos.	Recurrence in lungs.
121.	Noble (1)	B.	8 mos.	D.	6 mos.	Recurrence.
122.	Noble (2)	Ab.	3 mos.	R.	5 mos.	*Part of tumour left.*
123.	Nové-Josserand	M.	1 mo.	R.	3 mos.	
124.	Peham	Ab.	7 mos.	D.	2 mos.	Recurrence in 4 weeks.
129.	Pestalozza	M.	3 mos.	R.	1 yrs.	*Metastasis in lungs?*
130.	Peters	Ab.	2 mos.	D.	6 mos.	Rapid recurrence: refused further operation.
134.	Pick, A. (3)	M.	1 wk.	R.	4 mos.	
135.	Pick, L.	M.	At once.	R.	4 yrs.	*Metastasis during pregnancy.*
136.	Poten & Vassmer	M.	Malig. Mole.	R.	2½ yrs.	*Metastasis during pregnancy.*
137.	Prochownik	Ab.	4 mos.	D.	4 mos.	Recurrence, (?) lungs, brain.
138.	Prowse	M.	6 wks.	D.	8 dys.	
140.	Reinicke	Ab.	3 mos.	R.	3 mos.	Uterus ruptured.
143.	Rousse	M.	2 mos.	R.	Soon.	

No.	Reporter.	Last Pregnancy.	After first Symptoms.	Result.	How long after Operation.	Remarks.
144.	Runge	M.	5 mos.	R.	12 wks.	
146.	Scherer (1)	M.	5 mos.	D.	5 dys.	Exhaustion.
148.	Schlagenhaufer	Ab.	4 mos.	R.	22 mos.	
150.	Schmidt	M.	3 mos.	R.	4 mos.	
151.	Schmit (1)	M.	3 mos.	R.	1½ yrs.	Primary vaginal.
152.	Schmit (2)	Ab.	7 wks.	R.	22 mos.	Primary vaginal.
157.	Schultze	Ab.	5 wks.	R.	6 wks.	
158.	Senarclens	M.	5½ mos.	D.	5 mos.	Recurrence in lungs.
159.	Senarclens (2)	Tubal.	3 mos.	D.	2 dys.	Very severe operation.
165.	Steinhaus	Ab.	A few weeks.	D.	A few days.	
166.	Sticher	M.	18 mos.	R.	6 mos.	Very chronic case.
167.	Tannen	M.	3 mos.	R.	8 yrs.	
168.	Teacher, Edgar	Ab.	12½ mos.	D.	9½ mos.	
169.	Teacher, Kerr	Ab.	10 mos.	D.	Same day.	Hæmorrhage.
170.	Teacher, Pace	M.	2½ mos.	R.	2½ yrs.	
172.	Tédenat (2)	M.	2 mos.	D.	11 mos.	Recurrence in 7 months.
174.	Trantenroth	B.	4½ mos.	D.	12 dys.	Cardiac failure.
176.	Ulesko-Stroganowa	M.	15 mos.	R.	Soon.	Slow case.
177.	Veit	Ab.	4 mos.	R.	4 yrs.	
179.	Voigt	M.	10 wks.	R.	Some mos.	
180.	Wehle	B.	A few days.	D.	1 mo.	Very rapid recurrence.
181.	Wehle	B.	A few days.	D.	1 mo.	Very rapid recurrence.
186.	Zagorjanski-Kissel	Ab.	2 wks.	R.	15 mos.	*Metastasis had occurred.*
187.	Zondeck	M.	2 mos.	R.	Soon.	

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs : Symptoms ; Date of Onset	Treatment
1(1)	1896	Aczel.		1 normal birth, 2 abortions.	Normal birth.	Hæmorrhage ; 7 mos.(2) Cough and hæmoptysis ; supposed phthisis.	
2	1895	Ahlfeld (Marchand).	17	1st pregnancy.	Tubal.	Metrorrhagia for 4 mos. Hæmorrhage from secondary tumour in vagina.	Vaginal nodule scra ed out ; recurrence ; e ploratory laparotomy.
3	1900	Albert.	21	1st pregnancy.	Tubal.	Extreme wasting and weakness.	Tumour removed pieces ; very profu bleeding.
4	1900	Albert.		4 normal births.	Normal birth.	Slight hæmorrhage ; 4 days ; repeated severely.	Curetted 6 weeks (3) hysterectomy 8½ week
5	1900	Anders.	41	6 normal births, 1 abortion.	Abortion.	Hæmorrhages. Irregular : 3 months. Severe : 10 months.	Attempted removal vaginal tumour an curetting of uterus ; 1 months.
6	1900	Anders.	25	1 normal birth, 1 mole.	Mole.	Recurrent bleeding. Stinking discharge during 1 year after confinement.	Scooped out secondar tumour beside cervi Had to stop on accou of hæmorrhage ; 12 mo
7	1896	Apfelstedt and Aschoff.	33	2 births, 1 abortion.	Abortion, 4th month.	Hæmorrhages (Menorrhagia) ; 2 months.	Curetted 4 months hysterectomy in 8 month.
8	1896	Apfelstedt and Aschoff.	42	2 births, 1 mole.	Mole, 5th or 6th month.	Discovered a tumour in labium minus 8 days after delivery. Hæmorrhage from uterus and secondary tumour.	The tremendou hæmorrhages on attemp to interfere prevente operation.
9	1902	Austerlitz	23	5 normal births, 1 abortion	Abortion.	"Continuous" bleeding dating from an abortion 6 months before she was seen.	Curetted 6 months repetition 9 months vaginal hysterectomy 1 months.
10	1895	Bacon	48	6 normal births, 2 abortions, 1 mole.	Mole, 9th month.	Severe hæmorrhage 5 weeks later.	Removal of "retaine placental tissue."
11	1902	Baldwin.			Normal birth.	"Trouble continued."	Removal of retaine placenta 2 weeks ; dil 4 weeks ; hysterectomy weeks.
12	1895	Boldt	33		Abortion, 4th month.	Sanguineous discharge shortly after ; profound anæmia ; pleurisy,	Curetted shortly afte

1. The reference will be found under the corresponding number in Bibliography, Division A. Cases.
2. This is stated in terms of the time which elapsed between the termination of the last pregnancy and the occurrence of symptoms of disease.
3. As in 2, dates from the termination of the pregnancy.
4. In fatal cases, dates as in 3 ; in cases of "recovery" and "reported well," from the operation.

Result	Primary Tumour	Metastases	Remarks
Death at 9 months (4).	Deep ulcer in fundus uteri.	Cervix uteri, vagina, lungs, intestines.	Recognised *post-mortem*. Reported at first as sarcoma. Spontaneous rupture of uterus. Villi present (?).
Death.	Round, firm mass, size of fist, to left of and above uterus; many adhesions.	Vagina, hæmorrhagic infarcts in lungs.	Marchand's first case of chorionepithelioma, p. 14 *et seq.* Curettage of uterus revealed nothing abnormal. Diagnosis from vaginal growth. Peritonitis. Pyæmia.
Reported well some months later.	Tumour, size of man's head, alongside uterus; many adhesions.		The only recovery in a tubal case. (Ovarian?).
Recovery from operation.	Small tumour, deep in uterine wall, near right tube.		
Death, 12 mos.	Tumour like Edgar's in uterus.	Both ovaries, vagina; infarcts (?) in lungs.	Radical operation abandoned as some thrombosed veins could not be removed. Regretted abandonment later.
Death 5 days after operatn.	Very small tumour deep in uterine wall; in right cornu; contained villi.	Large mass of hydatidiform mole behind cervix uteri.	Diagnosis from microscopic examination of tumour behind cervix. Uterine growth found at *autopsy*.
Death 8½ mos.	Moderately large; in uterus.	Lungs, stomach, mesentery, pancreas, intestines, bone marrow.	Vaginal hysterectomy. Death 28 days later.
Death 4 mos.; hæmorrhage and sepsis.	In Uterus; a small tumour penetrating deeply into wall.	Vagina, lungs, spleen.	The tumour in the vagina was a mass of hydatidiform mole. See p. 19. *Malignant mole*.
Death with symptoms of secondary tumours; 14 months.	In uterus, like Dr. Edgar's.	Lung symptoms; no *post-mortem*.	Diagnosis of chorionepithelioma from the curettings; symptoms ceased therefore did not operate. Recurrence a month later. Same diagnosis from second curetting. Radical operation too late. See p. 21. From Sänger's clinic.
Death 6 mos.	Large tumour in uterus.	Detached nodules in uterus; broad ligament.	From Chiari's Institute. Reported at first as deciduoma malignum. Re-examined and redescribed as chorionepithelioma, 1897, see p. 21.
Death 3 to 4 months.	In uterus.	In omentum.	Recovery after operation good; rapid development of cachexia. See p. 6. No *post-mortem*.
Death 6 or 7 months.	Uterus greatly enlarged.	No *post-mortem*.	Microscopic examination showed the "characteristic decidual cells."

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs; Symptoms; Date of Onset	Treatment	Result
13	1901	Brothers	24	1 abortion.	Abortion? at 1 month, 1 yr. after the 1st.	Repeated hæmorrhages, 2½ weeks.	Curetted twice; hysterectomy 4½ months.	Recovery ported after.
14	1901	Buist	42	7 births, 2 abortions.	Had not missed a period.	"Flooding with clots" repeated several times in 4 months.	Curetted 2½ months hysterectomy 4 months	Death 28 after op tion.
15	1901	Buist	24	1 normal birth, 1 abortion	Abortion, 3 months.	Irregular hæmorrhages; 7 months.	Curetted 7 months hysterectomy 10½ mos.	Death 12
16	1901	Buschbeck.	51	8 births, 1 mole, 1 abortion	Mole.	Hæmorrhages; loss of strength; foul discharge; A few weeks.	Hysterectomy 8 mo	Recover Well later.
17	1902	Busse.	40		Abortion.	hemiplegia 6 months later.		Death 6
18	1901	Butz.	44	8 births, 1 abortion, 1 mole.		Hæmorrhage; 18 dys.	Curetted twice.	Death after operat
19	1896	Cazin-Segond.	30	3 births, 1 mole.	Mole.	Hæmorrhage; 3 mos.	Curetted 3 months hysterectomy 9 months	Report 3 yea
20	1896	Champneys.	18	1 birth, 1 mole.	Mole; 7 mos.	Severe hæmorrhage; 3 months; brown discharge; rigors; anæmia.	Mole cleared out; repeated curettings.	Death
21	1877	Chiari.	24	One pregnancy.	Normal birth.	Repeated hæmorrhages; later hæmoptysis.		Death
22	1877	Chiari.	23	Three.	Normal birth.	Bleeding; 4 weeks; hæmoptysis.	Examination of uter	Death
23	1877	Chiari.	42	One.	Abortion in 6th month.	Bleeding; 6 days.		Death
24	1896	Chrobak.	33	2 births, 1 abortion?	Abortion?	Severe hæmorrhage; renewed hæmorrhage; 5 months. Rigors, hæmoptysis, foul discharge, fever.	Repeated curetting hysterectomy about 8 9 months.	Recov from tion.

Result	Primary Tumour	Metastases	Remarks
Recovery reported soon after.	In uterus.		Curetted on the day before the radical operation. Had to stop on account of severe bleeding.
Death 28 hours after operation.	Irregular ulcerating mass on upper part of anterior wall of uterus.	No *autopsy*.	Some "cysts" found after second bleeding may have been mole tissue. Chorionepithelioma. Prof. Sutherland. Not yet published in detail.
Death 12½ mos.	Large mass in uterus.	Lungs, liver, kidneys, pancreas, heart, ovary.	Improved after operation. Died from generalized recurrence 2 months later. Characteristic tissue in secondaries. (Letter from Prof. Sutherland).
Recovered. Well 2 mos. later.	In uterus; size of fist.	No signs of metastasis.	Nearly died of hæmorrhage.
Death 6 mos.	Uterus and adnexa free; primary not clear; see remarks.	Heart, spleen, intestines, kidneys, pulmonary and hepatic veins.	There were thrombi of somewhat firm dry character in right and left ventricles, which proved to be tumours. That in the right ventricle (size of a hen's egg) was regarded as most probably the primary tumour.
Death 1 year after last operation.	Tumour for the most part syncytium, in uterus.	Many in lungs.	The uterus was cleared out after the mole. After the hæmorrhage it was curetted. All symptoms were absent for nearly a year, and she menstruated regularly. Then hæmoptysis, cough, and cachexia rapidly developed.
Reported well 3 years later.	Posterior wall of uterus.	Right ovary.	*Recovery in spite of metastasis.*
Death 8 mos.	Uterus enlarged; sloughy condition inside.	Lungs.	Abscess alongside uterus.
Death 6 mos.	Irregular mass in whole fundus and corpus uteri.	Isolated nodules in uterus, broad ligaments, lungs.	Described at first as carcinomata. Now regarded by Chiari as chorionepitheliomata. See p. 21.
Death 6 mos.	Irregular tumour of fundus uteri.	Lungs.	
Death 6 mos.	In uterus.	Isolated nodules in in uterus, vagina, ovary, pelvic lymphatic glands, lungs.	
Recovered from operation.	Tumour in the uterine wall covered by mucous membrane.	Lungs?	Microscopical examination of curettings negative. Extirpation on clinical grounds in spite of signs of metastasis. See p. 153.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs : Symptoms ; Date of Onset	Treatment
25	1896	Cock.	30	4 normal births.	Normal birth.	Slight hæmorrhage on 14th day. Severe a few days later, fever, lethargy.	Uterus curetted month.
26	1900	Croom.	44	5 births, 2 abortions.	See remarks.	Amenorrhœa, leucorrhœa, swelling of abdomen ; emaciation, secondary nodule in labium.	
27	1903	Crossen and Fisch.	48	11 births, 3 abortions, 1 mole.	Mole.	Severe hæmorrhages; 6 weeks; sanguino-purulent discharge.	Curetted 11 weeks hysterectomy a few days later.
		Eiermann (see Holleman).					
		Fiedler (see Schmorl)					
28	1903	Fleischmann.	30	3 births, 1 mole.	Mole.	Amenorrhœa ; 27 mos. ; loss of health ; tumour in vagina found ; 33 mos.	Curetted 20 days; ex cision of secondary an clearing out of uterus 3 months ; perforation o uterus.
29	1897	Fränkel, E.	29	1 birth, 1 abortion.	Abortion. No details.	Uterine discharge; wasting ; pain in abdomen and head ; supposed metritis.	Seen too late.
30	1897	Fränkel, E.	31	2 births.	Normal birth.	Hæmorrhage 7th day ; foul discharge ; metastasis in vagina, 2½ mos.	
31	1897	Fränkel, E.	48	5 normal births, 1 mole.	Mole, 3rd month.	Hæmorrhage ; 4 wks ; repeated.	Hysterectomy 2 mos.
32	1895	Fränkel, L. (Perske).	26	First pregnancy.	Mole, 3rd month.	Pain ; hæmaturia ; wasting. Seen at 21 months.	Exploratory operation only.
33	1896	v. Franqué.	32	6 births.	Perfectly normal birth.	Intermittent hæmorrhage ; 4 weeks ; weakness, hæmoptysis.	Curetted 4 months hysterectomy 4½ months
34	1897	Gebhard.	30	8 normal births.	Normal birth.	Hæmorrhage ; 7 wks ; pain in abdomen.	Hysterectomy 6 mos.
35	1897	Gebhard.	23	1 birth at 8 mos. 2 abortions, 1 mole.	Mole, 2½ mos.	Mole cleared out ; severe hæmorrhage 3 weeks later.	Hysterectomy 4 wks. diagnosis from micro examination.
36	1897.	Gebhard.	26	1 normal birth, 1 tubal pregnancy.	Tubal pregnancy.	Supposed abortion in second month. Hæmorrhage continued ; pain in head ; loss of memory.	Extirpation of vagina tumour.

Result	Primary Tumour	Metastases	Remarks
Death 8 wks.	Small tumour in uterus.	Lungs, ovary.	The placenta was examined and was supposed to be healthy.
Death about 6 mos. after cessation of menstruat'n.	A very large tumour of uterus, 6in. by 4in. by 4¾in.	Lungs, vagina, parametrium.	Diagnosis from examination of secondary nodule. Death before they could operate. Absence of hæmorrhage remarkable. Last pregnancy 6 years before, but amenorrhœa for 4 months before discovery of tumour.
Reported well 6 mos. later.	In uterus; size of walnut.	Scattered nodules in uterine wall.	
Well 10 mos. later.	Uterus size of 6—8 weeks pregnancy.	Vagina.	*Spontaneous recovery after perforation and abandonment of operation.* See p. 154.
Death 4½ mos.	Size of fist; in uterus.	Vagina, cervix uteri, lungs, liver, kidneys, spleen, brain.	Described as sarcoma in 1886; no microscopic examination at that time. *Absence of hæmorrhage.*
Death 2½ mos.	In uterus; very small.	Several very large in vagina, lung, uterine veins.	Described in 1892 as sarcoma clinically; microscopically flat-celled epithelioma.
Well 7 mos. later.	In uterus like Edgar's. Posterior wall.		Last normal birth 10 years before.
Death 24 mos.	In uterus.	Vagina, spleen, parametria, bladder.	Regarded as hopeless and operation abandoned; survived 3 months. Symptoms of metastasis in lungs and brain. Partial *post-mortem* only. See p. 13.
Recovered rapidly; well 17 mos. later. (Eiermann).	In uterus.	Lungs probably.	Diagnosis of retained placenta 4 months. Uterine wall felt *papier dünn;* 12 days after clearing out the uterus was as big as ever. *Recovery in spite of metastasis.*
Well 11 mos. later.	Uterus size of child's head; tumour size of fist; posterior wall.		
Recover'd from operation	Small tumour in uterus.		Villi (mostly hydatidiform) with marked epithelial overgrowth in blood-vessels deep in uterine wall. *Early destructive mole.*
Death 4 mos.	Tumour in left fallopian tube.	Cerebrum, lungs, spleen, mesentery, prevertebral lymphatic glands.	Found metastasis in vagina in 3rd month.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs; Symptoms: Date of Onset	Treatment	Result
37	1892	Gottschalk.	42	2 births, 2 abortions.	Abortion, 3rd month.	Severe hæmorrhage after the abortion; repeated many times.	Uterus cleared out times; hysterectomy months.	eath 13½ onths.
38	1900	Gottschall.		1 birth, 1 abortion.	Abortion, removed manually; 4 mos.	Rupture of uterus 3 months later on making an effort.	Laparotomy; death hours later.	eath 3 r
39	1895	Götze.	21	1 normal birth.	Normal birth.	Bleeding 6 months later.	Tumour removed fr uterus 6 months; lapa tomy 12½ months; operable.	eath 13
40	1902	Gräefe. (Risel, No. 6).	37	1 normal birth, 1 abortion?	Menstruation delayed eight days—abort'n in 1st month.	Brown discharge after abortion; hæmorrhage 2 months; severe anæmia.	Curetted after the ortion and at 4 mont hysterectomy 7 mont	Death 7 a few after o
41	1899	Guérard.	40		Mole, 2 mos.	Hæmorrhage; 4 wks.	Mole was cleared o curetted 3 months; h terectomy 3½ months.	Well in 3½ yrs.
42	1883	Guttenplan.	28	7 births, 1 mole.	Mole, cleared out.	Supposed retained placenta; anæmia.	Curetted 3 months	death
43	1895	Hartman and Toupet.	25	1 birth, 1 abortion?	Normal birth or abortion?	Oozing of blood after the abortion; severe hæmorrhage; 6 months.	Curetted; recurre of symptoms in 8 da see remarks.	Death
44	1899	Haultain.			Mole, 10 wks.	Hæmorrhage 3½ wks. A few days later expulsion of mass "not unlike a fleshy mole." Severe bleeding.	Curetted 1 mont hysterectomy 11 wee	Recove in 19
45	1903	Hawkins-Ambler.	39	12 births, 3 abortions.	Abortion, severe hæmorrhage.	6 weeks; severe bleeding. Two years later discovery of tumour; brown discharge; anæmia; breathlessness.	Curetted after the ortion; inoperable w next seen.	Death
46	1898	Hellier.	39	7 normal births.	Normal birth.	Continued reddish discharge; became offensive; 16 weeks; hæmoptysis.	Too ill for operati	Death
47	1901	Hitschmann.	38	4 normal births.	Obscure; missed one period.	Severe bleeding one month after missed period; continued bleeding.	Hysterectomy 5 m	Death afte tion

Result	Primary Tumour	Metastases	Remarks
Death 13½ months.	Big ragged ulcer in fundus and corpus uteri.	Pelvis, lungs, spleen, kidney, brain?	At first described as "Sarcoma choriondeciduo-cellulare." Well for 6 months after operation; death with symptoms of tumour in the brain.
Death 3 mos.	Tumour size of fœtal head, in uterus; ruptured over fundus.	No *post-mortem*.	Described as "Malignant hydatidiform mole, passing into syncytioma malignum," p. 153.
Death 13 mos.	Tumour in fundus uteri.	Detached nodules in uterine wall, vagina, lungs, liver, kidneys.	Tumour in vagina ten days after the curetting; diagnosis of "sarcoma deciduo-cellulare." Laparotomy abandoned without touching the uterus. Death 10 days later.
Death 7 mos.; a few hours after operat'n	Size of Hen's egg in uterus; grew in one month.	None.	Birth 1 year before abortion; regular menstruation in interval. Villi were found in the second curettings therefore they delayed radical operation.
Well in 1902, 3½ yrs. later;	In anterior lip of os uteri; like a carcinoma.		Curetted on account of "erosions." Diagnosis from micro-examination of curettings.
death 4 mos.	Uterus.	Lungs, vagina.	Called "Hæmorrhagic sarcoma" with large spindle and multinucleated cells.
Death 7½ mos.	Small nodule in cavity of uterus; two others in wall.	No *post-mortem*. Removed uterus.	Hysterectomy was to be done, but hæmorrhage set in which soon ended fatally in spite of all treatment. "Deciduoma." Reexamined by Segall and by Gottschalk. Page 21.
Recovery; well in 1903.	Ulcerated nodule, size of a walnut, in uterus.		Suspected sub-involution. Hæmorrhage so severe that curettings were examined; diagnosis from them; operation refused; nearly died of next hæmorrhage 7 weeks later. See p. 61.
Death, 2 years.	In uterus.		English case; considers Marchand's view to have been proved.
Death, 20 wks.	Large tumour in uterus; adhesions; perforation into *sigmoid flexure*.	Omentum, broad ligament, lungs, ovary.	Regarded at first as retained placenta and sepsis. "Sarcoma" (Eden): "Deciduoma malignum" (Targett).
Death 3 wks. after operation.	Large tumour in uterus.	General dissemination, brain, thyroid, kidneys, liver, intestines, lungs, vagina, spleen.	Langhanseoma, *i.e.*, minimal amount of syncytium.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs ; Symptoms : Date of Onset	Treatment	Result
48	1897	Holleman. (Eiermann).	52	9 births 1 mole.	Mole, July, 1892.	Hæmorrhage; see remarks.	Curetted 4¼ yea hysterectomy 4¾ years	ell 4 mo ter.
49	1901	Holzapfel.	37	Pluripara.	Abortion, 3 months.	Hæmorrhage indefinite; found secondary tumour 2 years.	Excision of second and hysterectomy.	ell in N 902 (2 ye
50	1901	Horrocks.	48	8 births, 4 abortions.	Abortion, 3 months.	Hæmorrhage; greenish discharge; 22 months; passage of fleshy masses.	Hysterectomy 27 m	od reco eath 33
51	1902	Hubbard.	34	5 births, 3 abortions.	Delayed menstruation, procured aborti'n	Menorrhagia? Subinvolution; severe bleeding; 6 months.	Curetted 6 month repeated 7½ month hysterectomy 9 month	ecovery, ½ month
52	1902	Hübl.	36	5 births, 2 abortions.	Full time birth; child dead.	Hæmorrhage 7 weeks; severe 8 weeks; hæmoptysis 3 months.	Excision about 3 m	eath 4 r
53	1902	Hübl.	23	First pregnancy.	Mole.	Hæmorrhage; 14 dys.; anæmia, cachexia.	Curetted 3 month exploratory laparotom	eath 4 r
54	1901	Inglis & Bruce.	22	1 birth, 1 mole.	Mole, 5 mos.	Epileptic fit 6 months later.		eath 6
55	1882	Jacubasch.	26	2 normal births, 1 abortion.	Abortion in 4th month.	Hæmorrhage; weakness.		eath 4
56	1868	Jarotzky and Waldeyer.	36	3 births, forceps, rhachitic subject, healthy otherwise; 1 abortion.	Abortion, 5th month.	Persistent hæmorrhage; foul discharge; anæmia; wasting.	Tonic treatment.	eath a months
57	1894	Jeannel.	26		Abortion.	Hæmorrhage, 13 mos.	Hysterectomy 15 mo	ecover
58	1900	Jörgenson.	49		Abortion?		Hysterectomy very early.	ell 1 ater.
59	1897	Jurassowsky.			Mole.		Hysterectomy 2 year	eath j fter.
60	1891	v. Kahlden.	30		Normal birth.	Hæmorrhage 13 wks.; rigors.	Uterus cleared out.	eath 3
61	1901	Kaiser.	35	3 births.	Hydatidiform mole, 3rd month?	Hæmorrhage contin'd until curettement; recurred at 9 months; cachexia.	Curetted 4 months 10 months.	ying

Result	Primary Tumour	Metastases	Remarks
Well 4 mos. later.	Small, soft tumour in uterus.		After the mole bleeding which ceased without operation; 1893, menopause; 3½ years later sudden severe hæmorrhage; 4¼ *years latency*. Chorionepithelioma, according to Marchand.
Well in Nov., 1902 (2 years)	Tumour in uterine wall.	Vagina.	Curetting showed "decidua." Diagnosis myoma and incomplete abortion; correct diagnosis from micro- exam. of secondary.
Good recovery, death 33 mos.	Deep ulcer in uterus.	No *post-mortem*.	Chorionepithelioma (Bellingham Smith).
Recovery, well 3½ months.	Large tumour in uterus.	Detached nodule in uterine wall.	
Death 4 mos.	Size of walnut in vagina; ulcerated.	Vagina, lungs, liver, ovary	Primary vaginal case; uterus sound; recurrence in 20 days after operation; perforation from vagina into bladder.
Death 4 mos.	Large tumour in uterus; posterior wall; extensive adhesions.	Anterior wall of uterus; cirvix, lungs.	In museum preparation the fundus is ruptured.
Death 6 mos.	In uterus.	Lungs, brain.	Death 3 days after an epileptic fit; tumour found at *post-mortem;* villi present.
Death 4 mos.	Ulcerated mass in uterus, size of apple, rising from fundus.	Uterine wall, vagina.	No microscopic examination; death from intra-peritoneal hæmorrhage from small nodule on back of uterus.
Death about 4 months.	Uterus much enlarged; full of hydatidiform vesicles.	None.	Uterine wall riddled with the vesicles in the venous sinuses; death, practically from hæmorrhage, in 24 hours, two months after first complaint.
Recovery.	Hæmorrhagic polypoid tumour in uterus.		From Marchand.
Well 1 year later.	In uterus; uterine vessels full of tumour tissue.		History not clear; pregnancy diagnosed from finding villi in the curettings.
Death just after.	In uterus.	Brain.	
Death 3½ mos.	Posterior wall of uterus.	None.	Destructive placental polyp. Villi with epithelial overgrowth in blood-vessels of uterus (Marchand).
Dying 12 mos.	Very large tumour in uterus.	Lungs? Iliac crest.	Radical operation abandoned on patient developing hæmoptysis; patient regarded as dying when case was reported.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs : Symptoms : Date of Onset	Treatment	Result
62	1890	Kaltenbach (Rummel).	46		"Colossal" mole.	Uterine tumour found 5 months.	Uterus cleared out months.	th 9 mos.
63	1896	Karström and Vestberg.	32	1 abortion, 1 mole.	Mole, 3 mos.	Hæmorrhage; pain in pelvis; rigors, 6 months.	Hysterectomy and cision of second tumour in vagina.	very; re ted less
64	1896	Karström and Vestberg.	36	3 births, 3 abortions.	Abortion, 5 mos.	Hæmorrhage, 6 mos.	Hysterectomy 6 m	an 1 year very.
65	1898	Kelly and Teacher.	27	2 births, 1 abortion.		Hæmorrhages; secondary tumour in vagina; hæmoptysis.	Excision of vagi nodule.	th 4 mos
66	1902	Kleinhans.					Hysterectomy; ex sion of secondaries.	covery.
67	1902	Kleinhans.			See remarks.			ath.
68	1895	Klien.	27		Mole, 3½ mos.	Bleeding "some time after;" ceased after curetting.	Curetted 2 months.	ath 8 mo
69	1900	Kolomenkin.	41	11 normal births.	Normal birth.	Persistent bloody discharge, 2 months; pain in abdomen, 3 months.	Hysterectomy.	ell 6 mo later.
70	1894	Köttnitz (Schmorl).	25	3 births.	Normal birth.	Hæmorrhage continuous from the confinement; tumour found 33 days; rigors.	Vaginal tumour u uterus cleared out w fingers and spoon; th operations.	ath 3½ m
71	1900	Krebs.	23	First pregnancy.	Perfectly normal birth.	Hæmorrhage continuous from the confinement to first curetting; acute sepsis with hæmorrhage 6¼ months.	Curetted 2 month "septic abortion" remo ed 6½ months.	ath 6½ m day after eration.
72	1902	Krewer.	33		Menorrhagia; Abortion?	Hæmorrhage, cough, hæmoptysis, consolidation of lung; hemiplegia.		ath 9 w
73	1902	Krewer.	29		Mole.	Hemiplegia 4 months after the confinement.		ath ab months.
74	1872	Krieger.	25		Malignant mole.	Hæmorrhage of 8 mos. duration; peritonitis.		ath.
75	1895	Kuppenheim.	33	5 births.	Birth in 7th month.	Hæmorrhage 3 weeks; repeated soon after operation; cachexia.	Uterus cleared out weeks; hysterectomy months.	ell 2 nd 4 m

Result	Primary Tumour	Metastases	Remarks
ath 9 mos.	Several nodules in uterus.	None.	Perforation of uterus in 3 places; intra-peritoneal hæmorrhage.
overy; re-rted less an 1 year.	In uterus.	Vagina.	*Recovery in spite of metastasis having occurred.*
overy.	In uterus.		
ath 4 mos.	In uterus.	Vagina, parametria, lungs, lymphatic glands.	Page 48.
overy.	In uterus.	Vagina.	No details published yet; *recovery in spite of metastasis having occurred.* Preparations seen.—J.H.T.
ath.	In left ovary.	Vagina, lungs, Fallopian tube.	Ovarian pregnancy or teratoma? Saw preparations.—J.H.T.
ath 8 mos.	Of considerable size; in uterus.	Lungs, vagina, beside cervix.	Quiescence after curetting; tumour found 6 months. "Sarcoma giganto-cellulare. Chorionepithelioma (1897) of atypical infiltrating variety.
ell 6 months ter.	Small, deep ulcer in uterus; perforation, adhesions.	Beside cervix.	Adherent intestine peeled off; not resected; *recovery in spite of metastasis having occurred.*
ath 3½ mos.	In uterus; like Edgar's.	Vagina, broad ligament, lungs, brain? Under peritoneum near uterus.	Hæmorrhage from "vaginal varices." Apparent sepsis; went insane; examination of head not allowed; no pyæmia.
ath 6½ mos., ay after operation.	Uterus full of shreddy, putrid masses.	Incomplete *post-mortem;* Peritonitis.	Supposed herself pregnant two months after the curetting; hæmorrhage absent for four months; supposed retention of mole, 2 months; acute sepsis; death in 5 days. "Pure syncytial." See p. 158.
ath 9 weeks.	Size of apple; fundus uteri.	In many organs.	Brought to hospital as case of apoplexy; death soon after.
ath about 4 months.	In uterus.		Uterus about normal size. Thickened endometrium; cicatrix causing adhesion between the two sides, in which tumour was found.
ath.	Large tumour in anterior wall of uterus, nearly perforating.		Observed in 1854. "Destruirende interstitielle blasenmole." From Marchand. "Blasenmole," p. 461.
ell 2 years nd 4 months	Size of fist, in uterus.		Quoted from Eiermann.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs : Symptoms : Date of Onset	Treatment	Result
76	1901	Kworostansky.	27	2 births, 1 abortion.	Abortion, 3 months.	Bleeding; 2 months; tumour found 2 weeks later.	Manual removal of ortion; curettage months.	Death abou months.
77	1901	Kworostansky.	24	2 births, 1 abortion.	Abortion, 6 months.	"Menorrhagia;" severe bleeding 6 months; cough, spit, tubercle bacilli in sputum.	Curetted 6 months 7 months; hysterec 7½ months.	Well 4½ mo
78	1902	Ladinski.	19	1 birth, 1 mole.	Mole, 2 mos.	Hæmorrhage continuous with the pregnancy; cough, hæmoptysis; patient very ill.	Abdominal hyst tomy 9 weeks.	Recovery, 18 mos. la
79	1901	Langhans.	22	First pregnancy.	Perfectly normal birth.	Severe hæmorrhage; 4 months; irregular bleedings.	Curetted 11 mon hysterectomy 12½ m	Well 1 later.
80	1901	Langhans.	29	1 birth.	Normal birth.	Profuse hæmorrhage; 3 months; secondary found in vagina; 6 months; extreme weakness and anæmia.	Scraping of vag tumour 6 months; ut curetted 8½ months.	Well 10 later.
81	1901	Langhans.	30	3 normal births, 1 mole.	Mole.	Hæmorrhage continued for 2 months.	Curetted 2 mont hysterectomy 2½ mon	Well 7½
82	1894	Laver and Wilkinson.	21	1 birth, 1 abortion.	Abortion, 3 months.	Constant slight bleeding for 5 months; then menorrhagia, anæmia.	Curetted 10 mont recurrence in 3 wee hysterectomy 12 mos.	Death
83	1892	Lebensbaum (Steinhaus).	27 (37?)	6 births.	Normal birth.	Hæmorrhage, 4 wks.; recurred 11 days after curetting. "Vaginal varix" 4 months.	Curetted 4 wee hysterectomy 5 month	Death (6 day operat
84	1895	Leopold.			Normal birth.	Irregular menstruation from 3rd week after. Pain in abdomen; collapse; intra-peritoneal hæmorrhage.	Abdominal hyster tomy, one year.	Recove from tion.
85	1897	Lewers.	24	First pregnancy.	Abortion.	Red discharge continuously after abortion.	Curetted 10 mont hysterectomy, 11 mont	Well 5 yea

Result	Primary Tumour	Metastases	Remarks
Death about 3 months.	Tumour like Kelly's in uterus.	Lungs.	Diagnosis from microscopic examination of curettings; postponed hysterectomy to allow recuperation; sepsis, pyæmia.
Well 4½ mos.	Like Edgar's, in uterus.	Lungs?	Spit disappeared as she got well. *Recovery in spite of metastasis?*
Recovery, well 18 mos. later.	Small, deeply burrowing tumour in uterus, containing villi.		Symptoms indicating involvement of the lungs appeared during the pregnancy; disappeared after confinement, reappeared, and finally disappeared after the hysterectomy. *Recovery in spite of metastasis.* See p. 154.
Well 1 year later.	Small tumour in uterus.		Diagnosis by microscopic examination of curettings. Menstruation between confinement and onset of illness; menorrhagia after 6 weeks interval—abortion (?) 2½ months after confinement.
Well 10 mos. later.	Villi in uterus, regarded as a tumour.	Tumour, size of walnut, in vaginal wall.	After scraping recurrence in vagina in 2 weeks, 16/5/00; tumour burst, 22/5/00; extruded slough; healed 1/6/00. Hæmorrhage from uterus 4/6/00; curetted 9/6/00; no further trouble. *Spontaneous healing of vaginal tumour.*
Well 7½ mos.	In uterus.		The curettings consisted of hydatidiform villi with epithelial overgrowth characteristically chorionepitheliomatous. Similar tissue in excised uterus.
Death 14 mos.	In uterus.	No *post-mortem*.	After operation, rigors, supposed to indicate sepsis; signs of metastasis in lungs. From Ladinski.
Death 5 mos. (6 days after operation).	Body of uterus distended to size of 4 months pregnancy.	Vagina.	Originally described as "Carcinoma." Re-examined by Steinhaus, 1900.
Recovered from operation.	In fundus uteri; growing into muscularis.	Uterine wall.	Hæmorrhage from a subperitoneal uterine nodule was cause of collapse.
Well in 1902, 5 years.	Rough surface in uterus on posterior wall.		English group of cases. "Sarcoma."

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs : Symptoms : Date of Onset	Treatment
86	1897	Lindfors and Vestberg.	44	2 births.	No definite abortion; amenorrhœa 2 months.	Hæmorrhage 2 mos.; foul discharge. See remarks.	Curetted 4 mon hysterectomy 5 mon
87	1900	Lindfors and Vestberg.	22	?	Confinement natural but premature.	Tumour found in vagina; 1 month.	Extirpation of vag nodule; curetting uterus.
88	1902	Lockyer.	42	7 births, 3 abortions.	Normal birth 3 years before or abortion.	Persistent hæmorrhage since 4 months before—incomplete abortion?	Inoperable when s
89	1895	Löhlein.	47	6 births, 1 mole.	Mole, 7 mos.	Hæmorrhage; foul discharge; 20 months; tumour found 2 years.	Hysterectomy, 27 mo
90	1896	Lonnberg and Mannheimer.	38	Multipara; 1 mole.	Forceps delivery at full time.	Hæmorrhage 4 weeks; tumour found 3 months.	
91	1896	Lonnberg and Mannheimer.	42	2 births, 1 mole.	Mole, 4 mos.	Bleeding; 7 weeks; bloody discharge. Pain in thorax and abdomen; 1 year; anæmia.	Hysterectomy and moval of vaginal tum 2 years.
92	1896	Malcolm. (Hebb).	27	3 births, 3 abortions.	Abortion (?) 3 months or normal birth 17 months before.	Septic infection after abortion; curetted 2 weeks; tumour found 3 months; brown discharge.	Uterus found per ated; hysterectomy ab doned.
93	1895	Marchand (Everke).	34	9 births.	Normal birth.	Hæmorrhages; 3 wks.	Curetted 4½ mont hysterectomy 5 mont
	1895	Marchand (see Ahlfeld, No. 2 in table).					
94	1898	Marchand.	42	5 births, 1 mole.	Mole, 3 mos.	Profuse hæmorrhage; 3 weeks; discharge.	Hysterectomy 2½ m
95	1898	Marchand.	22	First pregnancy.	Mole, 4 mos.	Hæmorrhage 4½ mos.; decline in health.	Removed vaginal dules 5½ months.
96	1901	Marchand (Risel No. 1).	43	9 births healthy, 1 abortion.	Normal confinement or early abortion	Cough, hæmoptysis about 9 months, and gradual hemiplegia within the next few weeks.	

Result	Primary Tumour	Metastases	Remarks
Death 5 days after operation. See remarks.	Large ragged ulcer in uterus.	None.	Curettings described from micro. exam. as placental remains. (Marchand gives this case as after mole; death from tuberculosis of lungs without metastasis *5 months later*).
Death 8 mos.	Uterus sound; characteristic tumour, size of chestnut in vaginal wall.	Large tumour in lungs; many other organs riddled with metastatic nodules.	Patient made good recovery; well 4 months later; 2 months after that began cough, loss of strength (influenza?), pleurisy; death ensued in 5 weeks.
Death 4 mos.	In uterus.	Lungs.	The uterus was found to have been perforated by the tumour.
Death 3 years and 3 months after mole.	In uterus.	Lungs.	A very slow case. Apparent menopause; complete recovery after operation; 10 months later pleurisy; death in 2 months from metastases in lungs.
Death 6 mos.	In uterus. Small, flat tumour on anterior wall.	Vagina, lungs, liver, spleen, kidneys, lymphatic glands.	Reported in 1872 as "epithelial cancer." No later microscopic examination; reported along with next case as a chorionepithelioma.
Recovery; well 18 mos. later. (Eiermann).	Tumour in uterus.	About 20 nodules "like varices" in vagina.	Very slow course. Apparently metastasis in lungs at 1 year. Very much reduced but made rapid recovery. "Carcinoma syncytiale." *Recovery in spite of metastasis.*
Death 3 mos.	Ragged ulcer in uterus. Perforation.	Lungs, parametria.	English group. "Sarcoma."
Well 33 mos. later. (Eiermann).	Large growth in fundus; ruptured during removal.	See remarks.	An adhesion containing a thrombosed vein (tumour?) had to be left.
Recovery reported, 2 months.	In uterus.		Villi in tumour.
Death 7½ mos.	In uterus.	Vagina, lungs, ovary, lymphatic glands.	Hysterectomy was not done on account of involvement of the vaginal veins.
Death about a year.	Large tumour in fundus uteri.	Abdominal wall, vagina, lungs, heart, liver, kidney, intestines, brain, bronchial lymphatic glands.	Diagnosis of metastatic tumour in brain; found many small brown nodules in it.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs : Symptoms : Date of Onset	Treatment	Result
97	1901	Marchand. (Risel, No. 5).	45	5 births, 2 abortions, 1 mole.	Mole.	Hæmorrhage from vagina, six months; gradual hemiplegia within the next few weeks.		ath 8 mos
98	1902	Marchand (Günther, Risel No. 2).	53¼	11 normal births, last 13 years before; 1 mole.	Mole.	Hæmorrhage during pregnancy and after the confinement.	Hysterectomy 2 m	covery, w 15 months later.
99	1897	Martin and Kieffer.	28	4 pregnancies.	Abortion, 4 months.	Continued bleeding after the confinement for 14 months.	Hysterectomy 14 m	covery.
100	1903	McCann.	53	10 births, the last an abortion in 3rd month, 9 years before.	?	Sudden hæmorrhage, which recurred every 3 or 4 days. Brown discharge; wasting.	Hysterectomy 5 m after the first hæm hage.	ath 6 da after ope tion.
101	1901	McDonald.	30	2 births, 1 abortion.	Normal birth probably.	Hæmorrhage; abortion (?) 3 weeks before she was seen.	Curetted twice.	ath 5½ m exhaustion
102	1900	McFarland (Noble).	30	2 births (last 2½ years before).	?	Profuse menstruation, Sept., '92, to June, '93. Cough, hæmoptysis; anæmia, Nov., '93.	Sloughing mass cle out of uterus June, 18	Death, D 1893; 6 m
103	1902	McMurtry.	35	6 births.	Apparently abortion in 2nd month.	Hæmorrhages continued after abortion; sepsis	Abdominal hyste tomy, 6 weeks.	Good rec
104	1795	Meckel-Gregorini.			Mole at end of 10 mos.	Chlorosis, ascites, anasarca, phthisis pulmonalis.		Death ab 1 year.
105	1894	Menge.		10 pregnancies.	Mole 6 mos.; removed.	Hæmorrhage, 5 mos.	Hysterectomy 7 mo	Death 13
106	1894.	Menge.		First pregnancy.	Mole 2 mos.; removed.	Hæmorrhage and tumour in uterus 6 weeks.	Growths remove recurred in 8 day hysterectomy about weeks.	Well 1 y later.
107	1902	Menzel.		4 normal births in 4 years.	Normal birth.	Irregular hæmorrhages from 3 weeks onwards; wasting, intense anæmia, bloody, slimy discharge.	Curettage 6 week perforation; hyster tomy next day.	Well 8 later.
108	1900	Metoz (Bonnaire).	31	1 normal birth, 1 mole.	Mole remov'd in 2nd month	Hæmorrhage, 27th day, alarming, syncope.	Hysterectomy 33 day.	Death day.
109	1900	Metoz (Legry).	26	1 mole, 2 abortions.	Abortion at 6 weeks, Oct., 1898.	Metrorrhagia, 4 mos. later; severe Oct., 1899, and Dec., 1899.	Curetted Dec., 18 and May, 1900.	?

Result	Primary Tumour	Metastases	Remarks
ath 8 mos	Lungs?	Brain, lungs, kidneys.	Similar to preceding. No tumour in uterus; decidual condition of mucous membrane; primary supposed to be in lungs.
covery, well 5 months later.	In uterus.		Villi deep in uterine wall in blood-vessels; marked epithelial overgrowth. See fig. 9.
covery.	In uterus.		Patient was markedly cachectic yet made a good recovery.
ath 6 days after operation.	Very vascular uterine wall; clots; tumour between clots and muscle.	None.	Pronounced "deciduoma malignum" by the Pathological Committee of Obstetrical Society of London. Both cell forms present. Uterus size of 3 months pregnant organ. Menopause 13 months before onset.
ath 5½ mos.; haustion.	In uterus.	No *post-mortem*.	Curettings termed "Placental tissue." Quoted from Ladinski.
ath, Dec., 1898; 6 mos.	Posterior wall of uterus.	Lungs?	Improvement after curetting; 5 months later evidence of recurrence in lungs; death a month later. Originally reported as "round-celled sarcoma." From Ladinski.
od recov'ry	In uterus.		Reported a few months later.
ath about 1 year.	Tumour in fundus and body of uterus.		Tumour grew into cavity of uterus and also out into abdomen; perforation (?); bloody ascites. From Marchand.
ath 13 mos.	Small tumour in uterus.	Pelvis, vagina, lungs, stomach, intestines, bone marrow. *Lymphatic glands.*	Originally reported as "Deciduosarcoma." Bronchial lymphatic glands infected.
ell 1 year later.	Uterus.		In letter to Eiermann Menge wrote that in view of the course of the disease after operation he withdrew the diagnosis of Deciduoma.
ell 8 mos. later.	A small, deep ulcer, in fundus uteri.		See page 41.
ath 35th day.	Uterus size of fœtal head at term; elevated area on posterior wall.		Villi with striking hypertrophy of epithelium and infiltration of uterine muscle; malignant mole.
?	Large mass scooped out of left cornu of uterus.		The mass removed in Dec., 1899, showed the structure of chorionepithelioma; she was in feeble health in May, 1900. Later history not known to me.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs : Symptoms : Date of Onset	Treatment	Resu
110	1888	Meyer.	55	3 births, 1 mole.	Mole removed, 4 months	Bleeding continuous after mole; rigors.	Uterus cleared o months.	Death 8 m
111	1898	Morales Arjona.					Hysterectomy.	Well 1 y later.
112	1896	Morrison.	35	9 normal births.	Normal birth.	Profuse hæmorrhage; six weeks; syncope; hæmoptysis 4 months after operation.	Curetted 9 we hysterectomy 15 we	Good covery; d 6 months
113	1899	Müller, E.	28	2 normal births, 1 mole.	Mole, 4 mos.	Thereafter bleeding and wasting.	Curetted 4 mon hysterectomy 2 w later.	Recovery well 6 later.
114	1891	Müller, P.	39	6 normal births, 1 mole.	Large mole, 5 months, cleared out.	Repeated hæmorrhages.	Curetted several ti	Death 7
115	1896	Neumann (Schauta).	29	3 normal births, 1 abortion, 1 mole.	Mole.	Hæmorrhage 1 mos.; anæmia; tumour in vagina, 6 weeks.	Curetted 6 we hysterectomy and cision of vaginal nod	Recovery well 2 2 mon (Eierma
116	1896	Neumann (Illich).	52	12 normal births, 1 mole.	Malignant mole.	Severe hæmorrhage during pregnancy.	Extirpated ut along with the mole.	Death 1 pneum
117	1897	Neumann.	40	3 normal births, 1 mole.	Mole, 4 mos.	Hæmorrhage; found secondaries in vagina.	Hysterectomy and cision of second growths, 2 weeks.	Recover well later.
118	1896	Neumann.	37		Normal birth.		Hysterectomy 4 m	Death
119	1898	Neumann.			Normal birth.	Hæmorrhage from uterus.	Hysterectomy.	Death after tion.
120	1897	Nikiforoff.			Tubal pregnancy.	Communicated to Marchand in a letter; photogra		nclosed
121	1902	Noble.	30	2 births, 1 abortion.	Normal birth.	Persistent hæmorrhage 22 months; consolidation of right lung and pleural effusion.	Hysterectomy 30 m	Good covery 36 mo
122	1902	Noble.	24	2 abortions.	Abortion 6 weeks.	Discharge like menstrua; diagnosis myoma; very ill.	Abdominal hyste tomy, 3 months.	Recov well later.
123	1894	Nové-Josserand and Lacroix.	24	2 births, 1 mole.	Large mole, 6—8 weeks, cleared out.	Hæmorrhage 1 month, brown discharge, cough.	Curetted 5 we hysterectomy 6 mon	Well later
124	1900	Peham.	25		Abortion.	Continued hæmorrhage.	Hysterectomy ab 7 months.	Death
		Perske (see L. Fränkel).						

Result	Primary Tumour	Metastases	Remarks
Death 8 mos.	Ragged ulceration of interior of uterus.	?	See page 19. From Marchand, No. 93.
Well 1 year later.	On posterior wall of uterus.		Tumour felt upon intrauterine digital examination; suspected deciduoma; confirmed by microscope. From Ladinski.
Good recovery; death 8 months.	Characteristic tumour in uterus.	No *post-mortem*. Lungs?	English group, "Sarcoma." Diagnosis from curettings, "squamous epithelioma."
Recovery; well 6 mos. later.	In uterus.		Curetting showed decidua and mole vesicles; diagnosis of chorionepithelioma.
Death 7 mos.	In uterus.	Vagina; gluteal region.	"Sarcoma Hæmorrhagicum seu Infectiosum." Re-examined by Langhans, 1901; decidua in uterus.
Recovery; well 2 years, 2 months. (Eiermann).	In uterus; villi deep in uterine wall.	Vagina.	Hydatidiform villi in primary tumour; absent from secondary in vagina. *Recovery in spite of metastasis.*
Death 12 dys., pneumonia.	Villi burrowing deep in the uterine wall.	None.	Malignant hydatidiform mole.
Recovery; well 2 mos. later.	Elevated area like placental site. Villi.	Vagina (containing villi).	Secondary tumour appeared in vagina during the pregnancy. *Recovery in spite of metastasis.*
Death 7 mos.	In uterus.	Lungs.	Curettage at 3 months revealed only decidua; death from metastasis in the lungs.
Death 6 mos. after operation.	In uterus.	Lungs; very numerous.	Good recovery from operation; some time later "bronchitis," with purulent sputum, areas of condensation, and friction.
enclosed showed	Langhans' layer cells and syncytium. (From Marchand, No. 94, p. 203).		
Good recovery; death 36 months.	In uterus.	Skin of breast, loin, and thigh. Lungs? No *post-mortem*.	Reported as Sarcoma (endothelioma) in 1893. Now as chorionepithelioma.
Recovery; well 5 mos. later.	Bluish mottled tumour of fundus.		Suspected malignant tumour at the abortion. Perforation; adhesion to omentum and bladder. Mass on bladder left; felt 3 months later, gone at 5 months. *Recovery although parts of tumour were left.*
Well 3 mos. later.	In uterus.		Diagnosis of carcinoma from curettings.
Death (?)	Small tumour in uterus extending along veins.	Vagina; lungs involved.	Recurrence in vagina 4 weeks after operation. Regarded as dying 2 weeks later.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs : Symptoms : Date of Onset	Treatment	Result
125	1891	Pestalozza.	25	2 pregnancies.	Abortion, 4th month.	Hæmorrhage from a vaginal tumour; dyspnœa.		Death 6 m
126	1891	Pestalozza.	33	5 normal births.	Normal birth.	Hæmorrhage, vaginal tumour found, cough, hæmoptysis.		Death.
127	1891	Pestalozza.	45	9 normal births, 1 mole.	Mole, 4th month.	Irregular bleedings continuous with abortion; hæmoptysis.		Death 5 m
128	1895	Pestalozza.	32	7 births.	Full time birth.	Hæmorrhage 7 to 8 days, anæmia, hæmoptysis, tumour in vagina.	Curetted.	Went hom dying; 5 months.
129	1895	Pestalozza.	22	1 birth, 1 mole.	Mole, 2 mos.	Anæmia, hæmorrhage, cough, hæmoptysis.	Hysterectomy 3 mo	Well 1 later.
130	1902	Peters.	30	1 birth, 1 abortion.	Abortion.	Hæmorrhage 8 days; tumour in vagina two months.	Extirpation of tumo Curettement of uter 2 months.	Death 8
131	1890	Pfeiffer.	36	5 normal births, 1 mole.	Mole in 2nd month.	Hæmorrhage 9 mos.; cough, purulent spit.		Death 13
132	1897	Pick, A.	52	5 births, 3 abortions, 1 mole.	Mole.	Hæmorrhage, 4 wks., severe; cough, spit, anæmia.		Death 4
133	1897	Pick, A.	37		Normal birth.	Post-partum hæmorrhage; renewed 1 month.	Curetted 3 months.	Death 4
134	1897	Pick, A. (Sippel).	26	4 births, 1 mole.	Mole, 4 mos.	Severe hæmorrhage, 3 weeks; tumour in uterus	Hysterectomy, 1 mo	Well 4 r later.
135	1897	Pick, L.	22	First pregnancy.	Mole, 4 mos.	Vaginal nodule found during the pregnancy.	Excision of tumour.	Well 4 later.
136	1900	Poten and Vassmer.	36	2 births.	Mole, 4 mos.	Hæmorrhage led to examination and discovery of vaginal tumour.	Excision of vagin tumour; hysterectom with mole *in situ*.	Well 5 later.
137	1899	Prochownik & Rosenfeld.	37	5 births, 3 abortions.	Abortion, 2nd mon.; uterus cleared out.	Hæmorrhage; 14 days; later anæmia, cough, severe bleeding.	Several times curette hysterectomy 4½ month	Death
138	1902	Prowse.	43	10 births (last 14 years before), 1 mole.	Mole.	Hæmorrhage, rigors, septicæmia.	Hysterectomy, 6 wk	Death after tion.

Result	Primary Tumour	Metastases	Remarks
Death 6 mos.	Ulcerated nodule in body of uterus.	Vagina, broad ligament, lungs.	Originally described as Sarcoma. Now regarded by Pestalozza as chorionepithelioma.
Death.	Ulcerated nodule in body of uterus.	Vagina, lungs.	
Death 5 mos.	Extensive tumour of fundus and anterior wall.	Lungs; isolated nodules in uterine muscle.	
Went home dying; 5 months.	Like Kelly's.	Lungs?	Radical operation regarded as hopeless.
Well 1 year later.	In uterus.	Lungs?	Diagnosed subinvolution and phthisis pulmonalis; no tubercle bacilli in sputum; curetted and found it was deciduoma. *Recovery in spite of metastasis.*
Death 8 mos.	Primary vaginal with sound.	Brain? No *post-mortem.*	Rapid recurrence in vagina, near the scar of operation. Refused further operation; hemiplegia 7 months.
Death 13 mos.	Size of fist in fundus uteri.	Lungs, vagina.	See page 8.
Death 4 mos.	Small tumour in uterus.	Lungs, spleen.	
Death 4 mos.	In uterus.		Curettings revealed nature of the disease.
Well 4 months later.	In uterus; posterior wall.		Diagnosis from microscopic examination of mole. From Eiermann.
Well 4 years later.	"Thrombosed varix" in vagina.		Hydatidiform villi in vaginal veins. Patient refused hysterectomy; mole was discharged three days later. See page 150.
Well 5 months later.	Malignant hydatidiform mole; deep infiltration of uterus.	Vagina (a mass of villi).	Metastasis during the pregnancy. A recurrence in vagina *after* the hysterectomy; removal of this 20 days later. No mention of death of patient in 1902 paper (Poten. list D. p. 166).
Death 8 mos.	Small tumour in uterus; outlying nodules.	Brain? Lungs? No *post-mortem.*	Diagnosis from curettings (Marchand). Good recovery from operation; death with cerebral symptoms (like Edgar's case).
Death 8 days after operation.	Large, deep, ulcerated patch in posterior wall of uterus.	No *post-mortem.*	Uterine wall almost perforated; villi with characteristic epithelial overgrowth deep in uterine sinuses; malignant hydatidiform mole.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs; Symptoms; Date of Onset	Treatment	Result
139	1902	Prowse.	39		Abortion, 7th month.	Thereafter hæmorrhage and offensive discharge from vagina, rigors, anæmia.	Curetted 4 months	Death 8
140	1897	Reinicke.	26	1 birth, 1 abortion.	Abortion, 2 months?	Bloody discharge started after blow on abdomen; 3 months.	Porro's amputation uterus.	Well 3 m later.
141	1895	Resinelli.	28	3 normal births, 1 abortion.	Abortion.	"In a short time," malaise, debility, fœtid discharge. Severe bleeding 2 months; tumour in vagina 3 months.		Death 4½
142	1897	Rosner.	20	1 birth, tubal pregnancy?	Tubal pregnancy?	Hæmorrhage 8 months after the normal birth. Tumour beside uterus and vaginal nodule 1 year.	Excision of vagi tumour.	Death ab months the bir
143	1898	Rousse.	47	12 normal births, 1 mole.	Mole, 5 mos.	Severe hæmorrhage at confinement; recurrence 2 months.	Hysterectomy, 2 m	Good re
144	1896	Runge.	44	Several normal births, 1 mole.	Mole.	Repeated hæmorrhage.	Hysterectomy, 5 m	Well 1 later.
145	1889	Sänger.	23	1 birth, 1 abortion.	Abortion in 2nd month.	Hæmorrhage, vaginal discharge, sepsis.		Death
146	1898	Scherer.	33	5 births, 1 mole.	Mole.	Brown fœtid discharge 14 days; Hæmorrhage 2 months; cough; rigor.	Hysterectomy, 5 m	Death after tion.
147	1898	Scherer.	26	1 normal birth.	Normal birth or an abortion a year later.	Endometritis; metrorrhagia 5 months after the supposed abortion; cough; spit.		Death (after tion).
148	1899	Schlagenhaufer.	38	4 births, 1 abortion.	Abortion in 4th month.	Hæmorrhage, 2 mos.; curetted, 4 months; bleeding from vaginal "varix" 6 months later.	Removal of vagi "varix."	Well later
149	1899	Schlagenhaufer.	27	2 births, 1 abortion.	Normal full time birth.	Pain in pelvis; breathlessness, weakness, anæmia during the pregnancy.		Death
150	1902	Schmidt, O.	23	First pregnancy.	Mole, 3½ mos.	Weakness, illness, pain in head; hæmorrhage, 8 days; extreme anæmia.	Curetted twice; hy terectomy about 3 mos.	Good well late

Result	Primary Tumour	Metastases	Remarks
Death 8 mos.	Like in case of Kelly and Teacher.	Lungs.	"Extremely low condition of the patient prevented any operative interference."
Well 3 months later.	Size of apple; ruptured over fundus.		Chorionepithelioma of atypical infiltrating type (Marchand).
Death 4½ mos.	Anterior wall of uterus.	Vagina, lungs, liver, Fallopian tube.	Operation regarded as out of the question owing to presence of vaginal metastasis. Also cough and hæmoptysis present.
Death about 14 months after the birth.	Large tumour beside uterus; latter contained decidua only.	Vagina.	The vaginal tumour typical chorionepithelioma. No *autopsy*. Supposed the large growth to be tubal.
Good recovery.	Myoma with chorionepitheliomatous tissue round it in uterus.		Possibly remains of mole only. Patient not young and was very anæmic. From Metoz.
Well 12 weeks later.	In uterus.		Remains of hydatidiform mole with typical chorionepitheliomatous infiltration in uterus (Aschoff).
Death 7 mos.	Several dark red masses in wall of uterus.	Iliac fossa, lungs, diaphragm, 10th rib.	Hæmorrhage into pleural cavity. The original "deciduoma malignum." See page 8.
Death 5 days after operation.	Small in body of uterus.	Lungs, liver, brain.	Diagnosis from microscopic examination of a small portion removed for the purpose.
Death 13 mos. (after abortion).	In uterus.	No *post-mortem*.	Case supposed to be endometritis after abortion and phthisis pulmonalis. Diagnosis from the curettings too late.
Well 22 mos. later.	"Varix" in vagina.		Chorionepitheliomatous nature of the "varix," discovered accidentally; uterus clear; no further operation; no villi; see page 152.
Death 34 days.	Large tumour in uterus.	Uterine veins, lungs, spleen, kidneys.	Placenta appeared normal; expelled spontaneously; no uterine hæmorrhage; resembled acute pyæmia; no suppuration. See page 151.
Good recovery, well 4 months later.	Large cells infiltrating uterine muscle.		Apparently simple mole. Diagnosis from microscopic examination (1 piece out of 6 cut). HbO reduced to 15 per cent.; 2 mos. after operation, 25 per cent.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs: Symptoms: Date of Onset	Treatment	Result
151	1900	Schmit.	36	5 births, 5 abortions, 1 mole.	Mole.	Hæmorrhage for 6 weeks. Vaginal tumours found 3 months.	Excision of tumou	Uninterrupt healing, v 1½ years la
152	1901	Schmit.	41	2 abortions.	Abortion 7th month.	Severe hæmorrhage from vaginal tumours 7 weeks later.	Excision of tumou	Well 22 m later.
153	1902	Schmit.	29	5 births.	Normal birth.	Pain in body, fever, emaciation, uterine bleeding, "some months" later.	Laparotomy.	Death sam night.
154	1893	Schmorl.			Normal birth.	Hæmorrhage 12 wks.		Death 6 m
155	1897	Schmorl.	38		Normal birth.	Discovery of vaginal tumour, 18 weeks.		Death 6 m
156	1900	Schmorl. (Fiedler).	23	2 births.	Normal birth.	Progressive failure of health, anæmia, pulmonary disease, tumour in abdomen, collapse.		Death ab 9 month
157	1896	Schultze.	40	2 births, 1 abortion.	Abortion?	Hæmorrhage, fœtid discharge; curetted 20 days later; hæmorrhage rapidly recurred.	Hysterectomy 35 day	Dismisse weeks well.
158	1902	Senarclens.	38	13 normal births, 1 abortion, 1 mole.	Mole.	Menorrhagia, 11 mos.; bloody discharge, cachexia.	Curetted 16 month hysterectomy 21 day later.	Death 2
159	1902	Senarclens.	38	1 normal birth 10 years before.	Tubal pregnancy.	Malaise, pain in pelvis, discharge from vagina, bloody.	Abdominal section extirpation by morcell ment.	Death 2 day operat
160	1902	Simmonds.	20	First pregnancy.	Abortion.	"Pernicious anæmia."		Death
161	1900	Smyly.	33	4 births.	Confinement, 8 months.	Hæmorrhages at 4 months severe; anæmia.	Curetted 4 months.	Death
162	1900	Solowij and Kryszkowski.	47	10 normal births, 1 mole.	Malignant mole.	Cachexia.	Removal of mole, 2 months.	Death after tion Death
163	1896	Spencer.	27	2 births.	Normal birth.	Passage of masses of growth, 20 days.		
164	1898	Stankiewiez.	31	4 births, 1 mole.	Mole, 4th mon.	Irregular bleeding and appearance of vaginal tumours during pregnancy.	Cleared out mole.	Deat late
165	1900	Steinhaus.	28	4 births, 1 abortion.	Abortion, 3 months.	Bleedings after the abortion; secondary tumours in vagina.	Excision of vagina nodule; hysterectomy, a few weeks.	Dea day op

Result	Primary Tumour	Metastases	Remarks
Uninterrupted healing, well 1½ years later.	In vagina : (1) size of hen's egg ; (2) size of walnut. Like "varices."		Curettings of uterus showed interstial endometritis ; primary vaginal case ; contained villi.
Well 22 mos. later.	Size of Hazel nut. In vagina.		Tumour consisted of a few villi imbedded in blood-clot—a hæmatoma ; ulcerated. Primary vaginal case.
Death same night.	Large tumour between layers of broad ligament.	None.	
Death 6 mos.	Characteristic tumour in uterus.	Lungs.	
Death 6 mos.	Primary vaginal tumour ; uterus and tubes free.	Lungs, liver, kidneys, intestines.	
Death about 9 months.	Lungs ?	Omentum, kidney, uterus ; suprarenal, retroperitoneal, lymphatic glands.	Death from rupture of large tumour in omentum attached to underside of liver ; decidua in uterus ; primary supposed to have been in lungs. *Autopsy* of abdomen only.
Dismissed ; 6 weeks later well.	Small tumour in uterus.		Last child 10 years before. From Ladinski.
Death 22 mos.	Large ragged ulcer in uterus.	Broad ligament, vagina, lungs.	Menstruated regularly for some months after the confinement. Nothing peculiar about mole.
Death 3½ mos., 2 days after operation.	Tumour size of head in pouch of Douglas.	Lungs, anterior mediastinum, heart, thyroid, kidney, suprarenal, both Fallopian tubes.	No tumour in uterus. Supposed to have come from a tubal pregnancy.
Death 2 mos.	Size of goose's egg in uterus.	Broad ligaments, vagina, lungs, liver, spleen, bone-marrow.	
Death 6 mos.	In uterus.		Development of pulmonary symptoms "precluded" radical operation. "Sarcoma modified by pregnancy."
Death 5 days after operation.	Uterus much enlarged ; full of mole tissue.	Lungs, tubes, spermatic veins up to vena cava.	The metastases were masses of hydatidiform villi. See page 57.
Death 10½ wks	Ulcerated gangrenous growth in placental site.	Lungs, cervix uteri, brain ?	English group, "Sarcoma."
Death 4 mos. later.	Masses of soft growth in uterus.	Vagina, lungs ?	Refused radical operation. Malignant mole (Solowij and Kryszkowski).
Death a few days after operation.	Necrotic masses in uterus. Deep excavation.	In vagina.	Last child 3¼ years before. Disease apparently continuous with abortion.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs: Symptoms: Date of Onset	Treatment	Result
166	1900	Sticher.	34	5 births, 1 mole.	Mole, 4 mos.	Hæmorrhages after mole.	Curetted 1 y hysterectomy 18 mon	ell 6 month ater.
167	1895	Tannen.	23	1 birth, 1 abortion, 1 mole.	Mole, 3 mos.	Irregular bleedings, 8 months.	Curetted 9 months 10½ months; hyste tomy 11 months.	ell 8 yea later. (Tannen).
168	1903	Teacher. (Edgar).	32	3 abortions.	Abortion, 2nd month.	Bloody discharge thereafter; rigors 4 mos.	Curetted 5 mont hysterectomy 12½ mo	eath 22 m
169	1903	Teacher. (Kerr).	23	First pregnancy.	Abortion.	Hæmorrhages & Pain in abdomen continuous with abortion; rigors.	Curetted 6 mon and 8 months; hyster tomy, 10 months.	eath 10 m
170	1903	Teacher. (Pace).	23	2 births, 1 mole.	Mole, 3rd month.	Post-partum hæmorrhage; repeated violent bleedings.	Curetted 7 days a 48 days; hysterecto 71 days.	ell 2½ y later.
171	1896	Tédenat.	47	3 births.	Full time delivery; dead child.	Violent bleeding, 8 months; sanious discharge.	Curetted 8 mon and again soon after.	eath abo months.
172	1896	Tédenat.	33		Mole.	Severe hæmorrhage at delivery; reported 2 months.	Curetted 2 month hysterectomy a few da later.	eath 13
173	1882	Tibaldi.	31	5 births.	Normal birth.	Continuous metrorrhagia.		eath 4
174	1898	Trantenroth.	38	6 births.	Normal birth.	Hæmorrhage 3 days later, repeated; extreme anæmia.	Curetted 12 week again for diagnosis months.	eath 5
175	1898	Trantenroth.	48		Abortion?	Pain in abdomen; hæmorrhage from uterus		eath.
176	1897	Ulesko-Stroganowa.	26	First pregnancy.	Mole in 1894.	Hæmorrhage, Nov., '94; curetted, Jan., '95; menstruated, June, '95 to Jan., '96; then hæmorrhage recurred.	Curetted twice; hyste ectomy 21 months.	ecover operati
177	1898	Veit.	32	6 normal births.	Abortion in first month; incomplete.	Removal of placental remains; hæmorrhage and discharge persisted.	Curetted 3 month hysterectomy, 4 month	ell 4 later.
178	1867	Volkmann.	46	8 healthy, normal births, 1 mole.	Malignant mole.	Hæmorrhage 4 weeks after amenorrhœa; weakness; wasting.		eath mont pregn
179	1899	Voigt.	53	8 normal births, 2 abortions, 1 mole.	Mole removed in 3rd month	Recurrent hæmorrhages; fever and rigors after curetting.	Curetted 9 weeks hysterectomy 10 weeks	ell mont
180	1901	Wehle.	46	7 births.	Normal birth.	Tumour in labium, 6 months.	Excision of vagin growth; recurrence in days.	eath
181	1901	Wehle.	39	6 births.	Normal birth.	Bloody, slimy discharge, 5 months.	Scooped out tumou and cauterized; recurre in 10 days.	eat ed mo

Result	Primary Tumour	Metastases	Remarks
Well 6 months later.	In uterus; very superficial.		Remarkably slow course. Disease diagnosed microscopically at 12 months. Refused operation then. Contained villi which showed retrogressive changes.
Well 8 years later. (Tannen).	In uterus.		Menstruation between delivery and first symptoms.
Death 22 mos.	In uterus.	Brain?	No *post-mortem*. Good health for 9 months after operation.
Death 10 mos.	Characteristic tumour in uterus.	Vagina?	Death from hæmorrhage.
Well 2½ years later.	In uterus.		Perforation by sound while examining. Villi present.
Death about 9 months.	In uterus.		From Metoz.
Death 13 mos.	Posterior wall of uterus.		Enjoyed 7 months of good health between operation and return of symptoms.
Death 4 mos.	In uterus.	Lungs, kidneys, brain, ovary, intestines.	"Carcinoma hæmorrhagica." Reported 1895 by Pestalozza as chorionepithelioma.
Death 5 mos.	Medium sized. In uterus.	None.	Death from cardiac failure 12 days after operation.
Death.	Large putrid tumour in uterus.	Broad ligament, vagina, lungs, liver, intestines, kidneys.	Complete history not obtained.
Recovery from operation.	Deeply infiltrating. In uterus.		Perfectly well for about a year after first curetting, then nearly died of hæmorrhage.
Well 4 years later.	In uterus; small; covered by mucous membrane.	In iliac fossa after the curetting. Disappeared after a time.	Villi penetrating deeply along the cavities of the blood-vessels.
Death in 6th month of pregnancy.	Masses of mole partly in cavity, partly burrowing in wall of uterus.		Extremely destructive character. Invasion especially of the sinuses.
Well some months later.	Uterus enlarged; no distinct tumour; villi burrowing deep into wall.		Suspicion of deciduoma; uterus supposed septic; extirpation; *not sepsis* but tumour found; malignant mole.
Death 7 mos.	Right labium majus; like hæmatoma.		Tumour grew very rapidly; primary vaginal; uterus free.
Death expected daily, 6 months.	Posterior wall of vagina.		Primary vaginal; uterus free.

No.	Date.	Reporter.	Age	Pregnancies	Last Pregnancy	Signs : Symptoms : Date of Onset	Treatment
182	1895	Williams.	35	4 births, 1 abortion.	Full time birth	Tumour in vagina, 1 week; sloughed at 1 month; no uterine symptoms.	
183	1840	Wilton.	37	4 births, 1 abortion, 1 mole.	Malignant mole.	Repeated floodings.	
184	1901	Winkler.	33	3 normal births.	Normal birth 4 years before or abortion.	Irregular hæmorrhages for 4 months; abortion probably.	Regarded as in able.
185	1901	Winkler.	26	First pregnancy.	Mole.	Pain in abdomen 1 year after mole.	
186	1902	Zagorjanski-Kissel.	20	First pregnancy.	Abortion in 3rd month, complete.	Rigors and hæmoptysis, 2 weeks; tumours in vagina.	Excision of tum curetting of uterus weeks.
187	1897	Zondeck.	43	12 births, 4 abortions, 1 mole	Mole removed in 7th month.	Hæmorrhages, 2 wks., repeated 6 weeks; rigor 4 weeks.	Curetted after m first bleeding and ri hysterectomy, 11 we
188	1894	Zweifel.			Mole.	Hæmorrhages continued. Hæmoptysis; consolidation of lungs.	Uterus cleared ou weeks and 8 weeks fingers.
189	1900	Davis & Harris.	40	14 pregnancies; youngest child 14 months old.	Ovum removed in 2nd month	Persistent nausea, vomiting, anæmia, intense headaches, maniacal attacks.	
				Cases Wanting Details.			
190	1897	Bulius, II.		Said to be like Sänger's first.			
191	1898	Sänger, II.		No details.			
192	1895	Tänzer.		Followed a normal confinement.			
193	1897	Treub-Doorman.	51	Two years after hydatidiform mole.			

Result	Primary Tumour	Metastases	Remarks
Death 3 mos.	In uterus. Small and not ulcerated.	Vagina, ovary, lungs, liver, spleen, kidneys.	Felt apprehensive during pregnancy; child dead; no post-partum hæmorrhage; no septic-æmia. See pp. 22 and 152.
Death 3 mos. after first bleeding.	Villi burrowing deeply in uterine wall.	Ovary.	Rupture of uterus; death from shock and hæmorrhage. See p. 153.
Death 5½ mos. (from onset of bleeding).	In uterus; perforation into sigmoid flexure.	Lungs, vagina, cervix uteri.	A vesicle (ovum?) was extruded at the beginning of the hæmorrhages.
Death 1 year.	Large tumour in uterus. (Like Kelly's).	Lungs, vagina, broad ligament, bronchial lymphatic glands.	See p. 16.
Well 15 mos. later.	Two small nodules about ostium vaginæ; the larger ulcerated; villi.		Uterus free of tumour. Symptoms ceased at once after operation; 8 months later abortion; 15 months again pregnant; no recurrence of tumour. See p. 154.
Good recovery	Tumour like Edgar's.		Reported only 3 or 4 weeks after operation.
Death some months.	No *post-mortem*. In uterus.	Lungs?	Examination for tubercle bacilli negative. "Placental polyp" removed at second operation.
Death some months.	Uterus and appendages sound.	Lungs, left kidney, liver, thyroid, brain.	The real nature of the disease was detected only *post-mortem;* leaves the site of the primary tumour open. Compare Schmorl-Fiedler case.

REVIEW OF CURRENT LITERATURE.

OBSTETRICS.

Bilateral Extra-Uterine Pregnancy.

PSALTOFF. *Annales de Gynéc. et d'Obstet.*, May, 1903.

THE following case was reported at the International Congress of Medicine at Madrid, April, 1903. It is of interest as the pregnancy was bilateral:—

One sac developed in the left ovary, and contained a mummified fœtus, retained over three years in the abdomen. The second sac contained a fœtus nearly five months old. It was situated in the right tube. Both sacs were removed by laparotomy. The patient recovered.

The patient was 35 years old, married 17 years, and had borne seven children at term. Her last confinement was seven years ago. She was admitted to the author's hospital (Smyrna) September 19th, 1902. In June, 1899, she had an attack of abdominal pain accompanied with vomiting. The periods were a few days late. The pain lasted 24 hours, and then lessened. Another, but less severe, attack occurred 15 days after this, accompanied with slight uterine hæmorrhage. This state of things continued for about five months, during which time the periods were absent. The symptoms then completely disappeared, the periods returned, and she was able to follow her ordinary occupation. Four months before admission she was again attacked with abdominal pain and vomiting, and these symptoms continued up to the date of her operation. During this time the periods were absent. She was very ill, and morphine was necessary to relieve the pain. The abdomen was distended and tender, and a fixed tumour, the size of an adult's head, reached nearly to the navel. The swelling filled Douglas's pouch. The cervix was soft and the enlarged uterus was fixed behind the symphysis pubis.

Extra-uterine pregnancy was diagnosed, and operation decided upon. The abdomen was opened, and a fluctuating tumour exposed. Its surface was smooth and very vascular. It filled the pelvic cavity. It was incised, and a considerable amount of fluid mixed with blood, escaped. Bleeding was free, and on introducing the hand into the sac a five months fœtus was discovered. This was

removed together with its placenta and membranes. The tubal sac was removed, and some vessel in the right broad ligament ligatured. On examining the left side of the pelvis another tumour, the size of a fist, was discovered. It was very adherent, but soft. It was punctured, but only a little fluid escaped. On cutting into this swelling a mummified fœtus of the age of five months was found. The sac was freed and removed entire. It appeared to be an ovarian pregnancy. The abdomen was then closed, but drained for eight days after the method of Mikulicz. The operation lasted an hour. The patient did very well, and left the hospital 40 days later.

The author remarks on the interest of this case in that two extra-uterine sacs occurred and were removed at the same time, one sac containing a fœtus which has been retained several years in the abdomen without causing any inconvenience. The case also shows that a woman who has had one ectopic fœtation may also have another, and therefore in operating on extra-uterine cases both appendages should be carefully examined. The question is also raised whether, in order to prevent the occurrence of a second pregnancy, it is not justifiable to remove the appendages and the uterus at the time of operation.

C. Hubert Roberts.

A Contribution to the Study of Combined Intra- and Extra-Uterine Pregnancy.

Bichat. *Rev. de Gynécol. et de Chir. Abd.*, May and June, 1903. No. 3.

The writer records a case that came under his observation, and gives short notes of 48 other cases reported by others. In 15 of the 49 cases (*i.e.*, about one-third of the total) a tumour other than the gravid uterus was recognised, and very occasionally fœtal parts and a fœtal heart were detected in this tumour. Rupture of the extra-uterine sac occurred 13 times, once at the second month, eight times during the third month, twice in the fourth month, once at the seventh month, and once five days after the birth of the intra-uterine fœtus at term. In 15 cases the intra-uterine ovum was expelled prematurely, seven miscarriages and eight premature confinements. In 12 cases (*i.e.*, 24·5 per cent.) both pregnancies continued uninterrupted to term. As regards the intra-uterine fœtuses 17 were born alive and 32 perished, giving a mortality of 65·3 per cent. The deaths were as follows:—Fifteen cases of spontaneous miscarriage; five of abortion

following intervention called for by the extra-uterine pregnancy; six cases of stillbirth at term; six cases due to death of the mother. In three out of 23 cases which went to term artificial delivery of the fœtus was necessary—forceps twice, version once. No infant born prematurely survived. As regards the extra-uterine pregnancy, in three cases the fœtus was extracted alive, a mortality of 96 per cent. The results in the other cases were as follows:—Rupture of tube or fœtal sac, 19 times; fœtus extracted by abdominal section in a state of maceration, eight times; ovum discharged by rectum, four times; ovum discharged by vagina, three times; ovum discharged by uterus, once; ovum absorbed spontaneously, four times; fœtus alive until term but extracted dead, seven times.

For the mother the prognosis is grave, for in 49 cases there were 22 maternal deaths as against 27 cures, a mortality of 44·9 per cent. Death occurred 12 times from intra-abdominal hæmorrhage so rapid that operation was not possible; seven times death followed operation, three times death resulted from sepsis after expulsion of the intra-uterine ovum. Of 23 cases operated on there were 18 cures and seven deaths, a mortality of 30·44 per cent. Of 24 cases in which no operation was attempted the mother died 15 times, a mortality of 62·5 per cent.

G. Drummond Robinson.

Pregnancy in a Double Uterus.

Péry. *Revue Mensuelle de Gyn. Obstét. et Pœdiatrie de Bordeaux*, February, 1903.

Monsieur Péry records a case of this interesting condition in a young woman, aged 29, who was admitted under his care on December 10th, 1902, seven months advanced in her first gestation. There was nothing unusual in the menstrual history. For the past month the patient had suffered from frequent attacks of vomiting, troubles of vision, pains in the loins, and facial neuralgia, together with swelling of the face and legs. During the night of December 7th she felt pains in the abdomen, and passed a certain quantity of blood and clots. The following morning a midwife was sent for, and removed a small fragment of tissue from the vagina, which she thought was a piece of placenta. The bleeding and vomiting, however, still persisted, and the patient was removed to the Maternity on December 10th. On admission the first thing to attract attention

was the pallor and puffiness of the face and the œdema of the legs and abdominal wall. The urine was found to contain a large quantity of albumin. On examination the uterus extended up to the right flank, and was situated entirely in the right half of the abdomen, and could not, moreover, be moved from that position. The child lay with head below and back to the right. The fœtal heart sounds were regular and distinct, and heard to the right of the middle line. On vaginal examination the cervix was patulous and admitted the index finger. The membranes were intact and the vertex plainly felt. Ballottement was detected with greatest facility. Though the bleeding still continued, the examining finger was almost clean, a sign the significance of which attracted no particular attention at the time, and was not explained till later. The patient was immediately placed on a milk diet and purged, and injections of chloral administered. She continued to improve till December 19th, when the pain reappeared with renewed energy, and became so violent that the fœtal heart sounds, which had been heard in the morning, ceased during the course of the day. It was only now that the existence of any malformation was recognised. On examination the finger passed through a dilated cervix into an empty uterus. The head, which had been felt above the brim on the previous examination, was now felt to the right, but separated from the finger by a mass of muscle. On making a more careful examination of the vulva it was found that there were two orifices placed side by side on the same horizontal plane, and separated from one another by a septum. These were the openings of two distinct and separate vaginas, each of which was continuous with a cervix, the left presenting the characters above mentioned, whereas on the right side the cervical canal was effaced and dilated to the size of a franc piece, and through it one could feel the membranes and vertex. The fundus of the left uterus reached to a point midway between the umbilicus and symphysis pubis. The two uteri apparently were inseparably united one with the other (it being impossible to find any depression or division between them) and contracted together. The blood that escaped came entirely from the left uterus. The ovum was expelled entire at 8 p.m. on December 19th. Immediately after the birth of the child the gravid uterus retracted nearly to the level of the umbilicus, whereas on the left side the fundus descended to the pelvic brim. During the passage of the child the lower third of the intervaginal septum ruptured. In commenting on the case, Péry points out that in cases of double uterus the mucous membrane of the non-gravid side undergoes marked hypertrophy and vascularity

analogous to the condition found in the uterus of an extra-uterine gestation; and that, what the midwife took to be a piece of placenta, was probably some of the uterine mucous membrane from the left side.

H. J. M. Playfair.

Extirpation of a Pregnant Uterus in the Case of a Woman nearly 50 Years of Age.

Geyl. *Zentralblatt für Gynäk.*, June 6th, 1903.

Geyl was called in consultation to see a woman, 55 years of age, who during 38 years of married life had been 16 times pregnant, all the children being viable, two of the number being born at the seventh or eighth months. There had also been at least five abortions during the third or fourth months, and these had given rise to no secondary complications. The youngest child was two years old at the time when Geyl first saw the patient. Three of the five abortions had occurred since then; the other two took place in the woman's 49th year; from then until the age of 53 the periods were fairly normal. For the last year and a half irregular menstruation with excessive hæmorrhage had been complained of, but the general condition of the patient was not much influenced thereby.

At the beginning of March, 1898, the expected menstrual period was missed; amenorrhœa continued until June 20th, when hæmorrhage took place, accompanied by offensive discharge and fever. Geyl saw the patient after this condition had continued for a month. She then showed signs of chronic sepsis. The skin and cornea were icteric; the patient was exhausted and wasted. There was no hæmorrhage per vaginam, as the latter was packed, but there was an offensive odour from the discharge. Nothing suggestive of an ovum had been passed. There had been several rigors, the tongue was dry and black, the pulse hurried and soft, although there was no loss of blood at the time. Nothing abnormal was detected in the abdominal cavity. The vulva was incrusted with coagulated blood and discharge; the rectal wall was prolapsed through the vulva. The cervix uteri was soft and tender and pitted on light pressure. The canal was gaping, allowing the cavity of the uterus to be easily explored. Within the body, a soft uneven mass was discovered running from two or three centimetres above the internal os to the fundus. The sound passed 17 cm., the length of the corpus uteri being 11—12 cm.

The cavity was douched with lysol and packed with iodoform gauze as a temporary measure, and as the uterus was thought to be the seat of malignant disease Geyl decided to do hysterectomy. Before performing this operation vapourisation of the cavity (by steam at 120° C for half a minute) was carried out with a view of effecting sterilisation. Two days later the uterus was removed by Doyen's method; this was easily completed in less than twenty minutes. Four days after the operation and two days after the removal of forceps there was a rise of temperature, and a foul discharge made it appearance. The tampons were changed and a douche given without effect. A mass was discovered reaching from the vaginal wound to the left pelvic wall. This was explored, and all corners and pockets where pus could collect were washed out and packed. The temperature fell at once and did not rise again. The discharge ceased 13 days after the operation, and the pelvic exudation gradually dwindled, and the patient left hospital quite well 26 days after operation. The supposed growth was found on microscopic examination to be a necrosing placenta, showing chorionic villi and decidual tissue. The uterine muscle was infiltrated by inflammatory round cells, and necrotic areas were found not only in the muscle of the body, but in that of the cervix uteri. These conditions were confirmed by Treub and van der Hoeven.

Geyl does not regret having removed the uterus, as he thinks curetting would not have been sufficient in a case like the present where the uterine muscle was so deeply involved by a gangrenous process. He concludes his paper by quoting several other cases of pregnancy occurring in women between 50 and 62 years of age.

CUTHBERT LOCKYER.

Icterus Gravidarum.

BRAUER (L.). *Zentr. für Gynäk.*, June 27, 1903.

BRAUER remarks that icterus, apart from hæmaglobinuria occurring in pregnancy, is very rare. Benedikt records two cases, Beking and Bossi one each; the details of his own case are as follows:—The patient was aged 25 years, with good family history. On admission she was pregnant for the fourth time; the three former pregnancies were characterised by nervous excitability, insomnia, and pruritus, followed by icterus, dark-coloured (smoky) urine, and stools almost completely devoid of bile pigment. These symptoms had led to

abortion or miscarriage in all three instances; one child lived eight weeks, the other two were stillborn. After delivery the above symptoms subsided. Brauer first saw the patient one month after her third miscarriage, when icterus was marked and itching and other nervous phenomena were still present. The stools were then colourless, the urine contained urobilin, no urochrome, ½ per cent. albumen, no blood and an occasional cast. The liver reached one and a half finger's breadth below the ribs; its border was normally sharp; the spleen was normal in size; there was no œdema, and no circulatory symptoms referable to kidney disease. Some days later all symptoms began to clear up, only slight pruritus and slight albuminuria remaining. During the fourth pregnancy Brauer saw the patient during the third month. There was marked pruritus, but no icterus; albuminuria existed, but no casts. Icterus became marked in the fifth month, with extreme restlessness, due largely to the itching. There was no suspicion of cholelithiasis. Labour-like pains had been felt since the fourth month; the uterus was fluctuant, indicating hydramnios. The liver was not palpable. The urine contained ½ per cent. albumen, no casts, no blood. The fæces contained no bile; before blood experiments were carried out the woman miscarried. The child was 13 inches long; it lived five minutes. The amniotic fluid was faintly tinged with bile. Ten days after the delivery the symptoms began to subside, and later the patient got quite well except for a trace of albumen in the urine.

Brauer, in discussing the etiology of icterus gravidarum, favours the view that the lesion lies in the liver-parenchyma, but suggests also that the kidneys may in a measure be responsible for the phenomenon.

CUTHBERT LOCKYER.

In what Circumstances is Symphysiotomy Indicated and what should be its Technique?

COCQ. *Bulletin de la Société Belge de Gynécologie et d'Obstétrique.* Tome xiv., No. 1.

IN Germany symphysiotomy has fallen into disrepute. In France Pinard and his pupils have preserved it from an oblivion which Cocq thinks would have been regrettable. He considers it to be a good operation, but only indicated in certain well-defined conditions. The majority of accidents and unfortunate sequelæ for which it has been blamed result from defective technique or miscomprehension of the

limits of the operation. He bases his opinion on the results of 24 cases, operated on by Prof. Kufferath, Dr. Tourney and himself, and experiments on 15 post-mortem room subjects. He asks:—

1. Is symphysiotomy really a good operation deserving a place among the other methods of delivery in cases of difficult labour?

2. If the first question be answered in the affirmative what are the real indications for this operation?

3. Finally, what is the best method of performing symphysiotomy?

To the first question he replies "Yes" and "No." "Yes" if the operation is only performed within the proper limits; "No" if lightly entered on without exact knowledge of the degree of contraction.

The principal accidents are (*a*) immediate and (*b*) remote.

(*a*) These are severe hæmorrhage, damage to bladder or urethra, wounding of the anterior part of vulva or vagina, and lesions of the sacro-iliac joints.

(*b*) The more remote bad results are incontinence of urine, osteitis of the pubic bones, absence of union and difficulty in walking.

These are all due not so much to the symphysiotomy as to the way in which it is done. To avoid hæmorrhage the separation of the pubic bones must not exceed two to two and two-fifths inches,, otherwise the veins behind the symphysis will be dragged on to a dangerous extent. The retro-pubic space should be packed with iodoform gauze, and the head should be brought out of the pelvis transversely instead of with the occiput under the pubes.

In experiments performed in the post-mortem room Cocq found that the bladder, urethra and vaginal wall were not damaged unless the separation of the pubic bones exceeded three inches. If the scalpel is used with care there need be no fear of *cutting* these structures. In these experiments a crack was heard when a separation of two inches was effected, but no real damage was done to the sacro-iliac joints unless the bones were more widely separated than this. He finds that a separation of two to two and two-fifths inches means an increase of half an inch in the antero-posterior diameter. This does not, however, represent the total gain since the anterior parietal eminence can, when the head is delivered transversely, pass out lying in the gap between the bones. Symphysiotomy is then a good operation; but is it better than Cæsarean section?

In marked contraction where labour has already lasted long and several attempts at delivery with forceps have been made, symphysiotomy offers a chance of delivery with much less danger to the mother than that involved in Cæsarean section. Operative experience and skilled assistance are not so necessary in

symphysiotomy as in Cæsarean section. Symphysiotomy ought to diminish the number of cases of perforation of the head of a living child. With a conjugate below two inches it may be done to render embryotomy easier. With a conjugate below two and four-fifths inches the operation should not be performed, except for this purpose. Above three and one-fifth inches version, or one pull with forceps should be tried first, between two and four-fifths and three and one-fifth inches symphysiotomy should be performed at once.

As regards technique, the simplest is the best. (Cocq does not mention the subcutaneous method). Make an incision through the soft parts covering the symphysis, median above but inclining to one side below to avoid the corpus cavernosum of the clitoris. Separate the soft parts with the finger, and then put a finger behind the symphysis, between it and the bladder. Cut through the cartilage from above downwards and from behind forwards with a blunt-pointed bistoury or scissors. Cut through the sub-pubic ligament fibre by fibre, while the urethra is displaced by a sound, or cut through it from below upwards and from behind forwards. At the moment that the cartilage is severed the knees are brought together. The wound is covered with gauze, and the head is delivered by forceps or version with its long diameter lying transversely. Care must be taken lest the bladder be nipped between the pubic bones. To avoid this accident the bladder may be displaced by pushing the uterus upwards and backwards by pressure on the hypogastrium. The soft parts alone are sutured. The patient generally walks on the 20th day. Details of 24 cases are given.

HENRY RUSSELL ANDREWS.

A Contribution concerning Pubiotomy by Gigli's Method.

BAUMM. *Monats. für Geburts. und Gynäk.* Bd. xvii., Hft. 5.

IN 1902 Van de Velde first contributed a paper on this subject, and soon afterwards Gigli's own paper appeared. From the writings of these two operators and the literature of nine published cases it would appear that pubiotomy was destined to take the place of symphysiotomy in practical obstetrics. The writer considers that symphysiotomy is a most valuable proceeding in the interests of the child, easy to perform by anyone, easier than Cæsarean section, but inferior to Cæsarean section in regard to the viability of the fœtus. The possible accidents which have been described, such as tears of the vagina, bladder, urethra and corpora cavernosa of clitoris, can be avoided by blunt dissection of these structures from their bony relations before dividing the cartilage of the symphysis. However,

incontinence of urine may follow symphysiotomy even after the most careful operation. According to Gigli these accidents may all be avoided by dividing the pubic bone to one side of the symphysis, outside the attachments of the above-mentioned structures. Also the healing of the symphysis, according to Gigli, is always problematical, while with freshly-cut bony surfaces bony union should necessarily follow. The author considers the symphysis is not a joint in the ordinary sense, and in all his symphysiotomy cases such good healing has resulted that the patients were fit for work. Another point, according to the author, is that after symphysiotomy the pelvis remains permanently widened, while it is doubtful what would be the future of a pelvis in which bony callus was thrown out around the divided pubic bones. However, the author considers that if Gigli's operation does give the immunity from wounds of surrounding organs claimed for it, then it is an operation worthy of trial. Accordingly he operated upon two cases on following days which appeared to be ideal cases for symphysiotomy. The incision was made to the left of the middle line, and in dividing the muscles down to the bone there was considerable hæmorrhage, which could only be controlled by tampons. The bones were exposed by blunt dissection and divided by passing Gigli's wire saw around. This part of the operation was performed without difficulty. The pelvic bones immediately sprung several fingers' breadth apart. Delivery was accomplished in both cases by means of forceps, and both children were born alive. As a result of the operation in both cases the vagina tore through and communicated with the wound, and in the second case the bladder also was torn. Therefore the chief reason for performing this operation instead of symphysiotomy failed, at all events in these cases. The wound, too, was as great, and the walls were as torn and crushed as they commonly are in symphysiotomy, and in addition there were the cut surfaces of the bones instead of the cartilage covered surface of the symphysis in the wound. No worse wounds can be imagined for prognosis, a most difficult situation in which to maintain asepsis, open ends of bones, communications with bladder and vagina. In addition one case was very anæmic from a severe post-partum hæmorrhage. Under these circumstances it is not surprising that both the patients died from sepsis. The author ends by saying that he has no desire to perform the operation again. It presents no great difficulty, as it only differs from symphysiotomy in the place of division of the bones, and finally it offers no advantage whatever over the latter.

THOS. G. STEVENS.

Is the Destruction of the Fœtus ever a Justifiable Operation?

MAYGRIER (CH.). *L'Obstétrique*, May, 1903.

UNDER the title of "*Le foeticide thérapeutique devant la Société de Médecine légale de France*," the author records a series of reports to that society, with the debates on them and the resolutions adopted. We have already in these pages referred to some of the *medico-legal* aspects of a surgeon's responsibilities, a subject which seems to occupy as much attention at present in France as professional secrecy a few years ago in Britain. Several reports were read on the question of induced abortion, and of embryotomy on the living child, to the society, but they were sent back to larger committees on the wider question of general surgical responsibility in the face of refusal of consent to a surgeon's proposed operation. The veteran, Dr. Brouardel, was invited to give his opinion. The society seems to think that its findings will have weight in the law courts, and if this be the case, it is a pity we have not in this country some similar means of giving expression to the findings of the body of the profession on such a question of secrecy.

The final conclusions adopted include the following statements: The responsibility of a practitioner is limited by the *code civile* to faults of gross negligence apart from medical skill, ("*en dehors même de toute question scientifique*").

No practitioner may operate in face of the express refusal of a fully conscious patient. Nevertheless there may be cases of exceptional emergencies or other conditions which it is impossible to detail, in which the conscience of the practitioner may compel him to operate without the patient's consent. For example, as mentioned in the debates, cases of suicide.

Where the patient is unconscious the same results hold good with regard to those *in loco parentis* (*ayant autorité légale sur lui*) with the same limitations as above, but anticipating that these will be more frequent.

No practitioner can be compelled to an operation against his judgment. A refusal to consent to the operation proposed relieves him of all responsibility from the consequences of his abstaining from the alternative suggested. Humanity alone may make it his duty to operate. This covers the cases where there is no time to hand over the patient to another practitioner. These findings are made on scientific and legal grounds: religious scruples are ignored. In the debates was mentioned the cases of a catholic doctor who

refused to do embryotomy on the live fœtus when the mother refused Cæsarean section. He waited for the fœtal death, which occurred simultaneously with that of the mother. In great distress he sought his bishop who, after long debate, gave it as his opinion that the operation should have been performed on the ground that the woman may reasonably claim it as a reasonable or legitimate act of self-defence against the fœtus which was threatening her life! Truly an answer which might be brought before the Catholic hierarchy in general.

E. H. L. Oliphant.

A Contribution to the Histological Study of Adherent Placenta.

Edhem (Ibrahim). *Bulletin de Soc. d'Obstét. de Paris*, Meeting of May 28, 1903. No. 5.

From the histological study of an adherent placenta the writer comes to the following conclusions:—

1. Adherent placenta is due to an alteration in the uterine mucous membrane.

2. This alteration is not inflammatory.

3. Histologically there is a hyperplasia of the interstitial tissue of the decidua, especially of the decidua serotina, which leads to the disappearance of the normal spongy layer through which separation takes place; in some places the spongy layer is replaced by a dense and compact layer of tissue, in other places there is an absence of decidua between the extremities of the chorionic villi and the muscular wall of the uterus, so that the villi are in these cases actually in relation with the uterine muscle.

Reference is made to the work of Langhans (1875), Berry Hart (1889), Leiss (1891), Neumann (1896), Alexandrow (1900), and Konrad Hense (1901).

G. Drummond Robinson.

GYNÆCOLOGY.

On the Value of the Determination of Leucocytes in Diseases of the Female Generative Organs.

DÜTZMANN. *Monats. für Geburts. und Gynäk.* Band xviii., Heft 1.

THE value of blood counts as a diagnostic point of great importance has impressed itself more and more on observers of late years. In perityphlitis, enteric fever, suppurative processes, etc., much work has been carried out, and the presence or absence of leucocytosis and the causes which influence this have been studied to great advantage, and valuable knowledge of this process as a means of diagnosis has been acquired. In diseases of women, however, little has been done in this country, and so any paper on the subject must be welcomed as an addition to our knowledge and as a stimulus to others to carry out similar researches. The author made about 2,000 blood counts in 223 cases of various diseases of the female generative system as an aid to diagnosis and prognosis. As a diagnostic aid in cases of (1) inflammatory processes such as exudations, salpingitis, oöphoritis, pyometra; (2) tuberculosis, myomata, carcinoma and tubal gestation; (3) in ovarian cysts; (4) as an aid to prognosis in cases of sepsis and eclampsia.

The Thoma-Zeiss apparatus was used for counting, and several important hints are given as to its working so as to avoid errors. The normal number of leucocytes was taken to be between 5,500 and 10,000, and use was made of the iodine reaction of Goldberger and Weiss in doubtful cases. In many of the cases only single counts were made, and of all the cases 90 were thought to be especially interesting, and of these details are given.

In 11 cases of post-puerperal or post-operative suppuration, counts were made to corroborate Curschmann's findings in perityphlitis. In all a great increase of leucocytes was found, which fell as soon as abscesses were opened, and increased again if any retention or fresh pus formation occurred. In 22 cases of an inflammatory nature in which pus could not be diagnosed by other means, or which exploratory puncture failed to reveal, when leucocytosis was present pus was found by operation, when there was no leucocytosis no pus proved to be present without exception. One of these cases was of exceptional interest, the diagnosis of myoma having been made on account of the presence of a hard tumour as big as a fœtal head. However, the blood count showed the number of leucocytes to be

17,600, and while being disinfected for laparotomy a sudden discharge of stinking pus occurred per rectum, and the tumour disappeared. In nine cases of tuberculosis of the pelvic organs no increase of leucocytes was found, which bears out Jung's statement "that in purulent pelvic diseases where there is no leucocytosis tuberculosis is most probably present." In two inflammatory cases, although pus was present, no leucocytosis was found. The reason for this appears to be that in one case the pus was contained in a cavity lined by epithelium (uterus duplex), and in the other case the pus had existed a year, and was so encapsuled by a thick wall that it had no effect on the blood in general. In 12 cases of myoma and carcinoma blood counts were made, and in six an increase of leucocytes was found. But these cases were complicated by pus collections—four of myoma with adnexal suppurations (which gave no symptoms whatever) and two of carcinoma with pyometra. So it must be concluded that myomata and carcinomata of themselves cause no increase of leucocytes, but only do so if complicated by pus formations. In seven cases of tubal gestation a like result occurred—no leucocytosis in uncomplicated cases. One case showed a leucocytosis up to 16,000 and pus with virulent streptococci was let out per vaginam. An abdominal operation in such a case would have been most dangerous on account of the ease with which the general peritoneum could have been infected. In 10 cases of large non-suppurating ovarian cysts no leucocytosis occurred except in four cases. These cases proved to be those in which there was some ascites with infection of vessels, and two of them had twisting of the pedicle. Although no pus was present, it must be therefore concluded that a non-purulent so-called aseptic peritonitis may give rise to leucocytosis. In such cases the iodine reaction for the leucocytes will form a valuable means of distinguishing purulent from non-purulent cases.

Sixteen cases of puerperal and post-operative sepsis were also observed. It has long been known that in pneumonia, scarlatina, etc., in which leucocytosis reaches very high grades, such as 30,000, 40,000, the prognosis becomes very grave if this leucocytosis fails. In the same way, in the author's studies of puerperal sepsis and post-operative sepsis, when a high grade of leucocytosis was present recovery generally occurred in spite of the apparent hopelessness of the case, while death always occurred when leucocytosis was absent. In some cases in which rigors occurred, leucocytosis was found from the first, and a still further increase occurred after each rigor; in such cases the prognosis is good. On the other hand, in fatal cases

the number of leucocytes sinks after each rigor, and before death occurs becomes sub-normal. These observations may probably be of use in deciding when to perform a radical operation in serious puerperal sepsis, such as hysterectomy or extirpation of thrombosed veins in the pelvis. In six cases of eclampsia somewhat similar results were found—high leucocytosis in cases which recovered, gradually sinking numbers in those in which death occurred. These observations, however, in eclampsia require much more corroboration as there must be many influences at work which at present are not clear.

From the foregoing it may be gathered that a blood count is always a most interesting research of great diagnostic value, and often of the greatest importance as regards operative procedures and prognosis.

THOS. G. STEVENS.

Uterine Myoma with Cystic Kidneys: Death after Operation.

DOLÉRIS and ALGRET. *La Gynécologie*, April, 1903.

THE patient, æt. 44, was operated upon for a large, soft myoma of the uterus. The operation was simple. No adhesions were present. Sub-total abdominal hysterectomy was carried out. The patient had previously been in good health. The urine contained a slight trace of albumen, but no sugar. A few hours after the operation the patient became somnolent, and the next day developed complete hemiplegia. Urine was passed freely, but the sphincters were relaxed. The patient became comatose and died three days later. At the *autopsy* both kidneys were found much enlarged and cystic, with almost complete absence of healthy renal tissue.

The case is of interest and importance, since it illustrates the evolution of cystic degeneration of the kidneys and chronic nephritis, with the urine remaining sufficiently abundant, containing only a trace of albumen and thus with an almost complete absence of any indications of renal disease before the operation.

It is probable that the prolonged anæsthesia by chloroform was responsible for the sudden development of signs of renal insufficiency, the result of intoxication produced by the drug. The authors suggest that if renal disease be suspected before operation no anæsthesia should be induced by the spinal injection of cocain, which has no toxic effect on the kidneys. Well-marked cystic degeneration of the kidneys produces very definite enlargement which may be recognised before operation. If, however, as in this case, a large tumour is present this may be impossible.

ARNOLD W. W. LEA.

The Degenerations and Complications of Fibroid Tumours of the Uterus from the Standpoint of Treatment.

Noble (Chas. P.). *American Gynecology*, April, 1902.

This paper follows closely on the lines of another by C. C. Frederick an abstract of which appeared in the January number of this Journal. The degenerative changes and complications found in 258 operations for fibromyoma of the uterus are classified under three heads, viz., (1) those which would lead to a fatal result, (2) those which would involve more or less invalidism. As in Frederick's paper, there are included not only the complications directly traceable to presence of the uterine tumour, but other incidental conditions found at the time of operation, such as new growths and inflammatory affections of the adnexa, cancer of the uterus, appendicitis and so on. One hundred and ten out of the 258 cases, or 46 per cent., are looked upon as fatal without surgical treatment, either from the tumours themselves or their complications. By adding to his own cases those published by Martin, Frederick and Cullingworth, and classifying them in the same way, the author comes to the conclusion that out of the 688 cases so collected, the presumptive mortality from the uterine complications alone varies from 16 to 24 per cent., and when the complications outside the uterus are included, from 45 to 46 per cent. or over. Hence if the mortality of myomectomy and hysterectomy is taken as between 2 and 10 per cent. it seems a fair conclusion that the resort to early operation will effect a saving of from 25 to 30 per cent. in mortality, in addition to the perhaps greater saving in the morbidity which follows operation, as compared with that which is incident to the history of fibroid tumours.

The author also gives a table of the ages of the patients operated on—the youngest was 17 and the oldest 67—and calls attention to the fact that 12 per cent. were above 50 years of age when their symptoms caused them to seek relief, at which time, according to the classical teaching, most of the patients should have regained their health as the result of the influence of the menopause. No instance of a fibroid tumour having disappeared after the menopause has come under his notice, and he therefore looks upon this occurrence as merely one of the curiosities in the history of these growths, and as a result not to be expected.

John S. Fairbairn.

Papilloma of the Body of the Uterus.

BIAGI (NELLO). *Deutsche Zeitschrift für Chirurgie.* Bd. 68, Heft 3 and 4.

THE author describes in detail the naked eye and microscopic appearances of a rare form of villous growth in the body of a uterus removed by vaginal hysterectomy from a multipara of 39. The tumour formed a sprouting, cauliflower-like mass covering the opening of the right Fallopian tube; at its base the uterine wall was raised into a slight eminence, and on making a section through the growth and its attachment the tissues of the uterine wall could be made continuous with the connective tissue core of the branching processes. The epithelium on the outer surface of these processes was for the most part clearly differentiated from the underlying connective tissue; in places, however, the basal membrane was broken through, and islands and nests of epithelial cells were found sequestrated in the matrix. In one place the epithelium had so involved the wall of a vessel as to occlude its lumen and give rise to an appearance like that of an epithelial thrombus. A papillomatous growth of this kind is very rare in the body of the uterus, though common in the cervix. Cases have been recorded by Martin and Kürsteiner as arising from the endometrium, and a few have been recorded from the tubal mucosa. About the exact nature of such tumours there has been considerable doubt. Some of the French observers have looked on them as benign, like the villous growths of the bladder, though recognising that they may undergo a malignant change, but the view of Virchow that they are a form of carcinoma seems to be upheld by a study of this specimen. Perhaps "papillary carcinoma" describes it best. Whatever view is adopted there is no question but that the radical treatment of removal of the whole organ is the right one.

JOHN S. FAIRBAIRN.

Retroflexion Operation.

ALEXANDROFF (S. A.). *Zentralblatt für Gynäk.*, 1903, No. 25.

THE writer states that he is introducing a new operation for retroflexion, which is based on the consideration of the principal factor concerned in that displacement, viz., the accompanying descent of the uterus. This is due to relaxation of the ligamentous supports,

especially the bases of the broad ligaments, in which are situated the ligamenta cardinalia and the ligamenta transversalis colli of Mackenrodt. Further, all movements of the uterus are regarded from the standpoint of a lever whose long arm is the corpus, and whose short arm is the collum uteri. The fulcrum of this lever is situated in the upper part of the posterior surface of the collum. Not only the normal, but the pathological movements of the uterus take place about the above fulcrum, and the object of the writer's operation is to restore the displaced womb into its physiological position in the pelvis, to correct descent, or, in other words, to raise and fix the fulcrum to the proper height.

Since relaxation of the bases of the broad ligaments account for the descent of the uterus, shortening these supports is the best operative procedure for retroflexion with descent. The operation is easy, and is extra-peritoneal.

The uterus is drawn down. A convex flap from the anterior vaginal wall, together with the bladder, is raised *well* up, and the broad ligaments exposed on either side. A provisional ligature is passed through them at their bases $3\frac{1}{2}$ centimetres from the cervix. A strong rounded bundle of the connective tissue about 1 cm. thick is tied on either side by these temporary sutures. The uterus is now brought into ante-version, whilst the assistant crosses the two temporary ligatures and brings the bases of the broad ligaments together in front of the cervix uteri, where they are united by two or three buried sutures, the latter including also some of the cervical tissue. The temporary ligatures are then removed. The buried sutures must not extend above the level of the internal os. The flap in the vaginal vault is then closed, or if necessary the prevesical space is drained.

In all cases so treated the uterus has retained its proper position and normal mobility. No urinary complications have ever resulted. Menstruation has not been impaired. Complete after-histories are, however, not yet obtainable.

CUTHBERT LOCKYER.

Accidental Perforation of the Uterus.

BROTHERS (ABRAM). *American Gynecology*, April, 1903.

THE means to be adopted to minimise the dangers resulting from accidental perforation of the uterus are discussed in this paper. The author bases his conclusions on the accounts of cases recorded by others and on eight cases which have come under his own observation.

When the uterus is perforated during the passage of a sound or curette the accident is recognised by the instrument passing to a depth beyond that of the size of the organ as mapped out by bimanual examination. The suspicion that the instrument has passed into a Fallopian tube must not be assumed; it is safer to accept a possible injury to the uterus, as this is what happens in the vast majority of such cases. Under these circumstances the prognosis is good, provided that the instrument, operator and field of operation have been aseptic. Those cases will usually get well if manipulations within the uterine interior are brought to a sudden termination, and particularly if no intra-uterine irrigations are made. If the curettage or sounding was preliminary to an intra-peritoneal operation this may be proceeded with, and the injury to the uterus repaired by suturing. No drainage is necessary. Otherwise the patient can be safely put to bed with an ice-bag over the hypogastrium and given morphine or opiates. If the uterus has been injured and the interior irrigated three sets of conditions may arise—1st, a mild local peritonitis may call for nothing more than the same line of treatment; 2nd, an acute septic peritonitis may call for an immediate hysterectomy (usually vaginal) with drainage per vaginam; 3rd, a less virulent and more chronic inflammation, which is liable to terminate in local abscesses and involve operative measures, either from above or below, according to situation, for their evacuation. Usually this will be of the nature of an exploratory laparotomy, and the exact line of work can only be determined when the abdominal cavity is opened. Hysterectomy in these cases is rarely indicated. In those cases in which the uterus has been injured and intestine has been dragged through the wound and become strangulated, laparotomy must be done as early as possible. If the strangulation has been fatal to the vitality of the gut this must be excised. The uterus may then, according to the judgment of the operator, be repaired or removed. That this state of affairs is not necessarily fatal is shown by the five recoveries out of eight operations reported by Miguel.

The frequency of this accident shows that the sounding or curetting of the uterus are proceedings not to be undertaken lightly. Sound and curette are employed far too often. The author states that he has very little use for the uterine sound, and that in the case of the use of the curette he limits his indications very strictly.

JOHN S. FAIRBAIRN.

Vaginal Extirpation of the Uterus without Anæsthesia.

GRADENWITZ. *Monats. für Geburts. und Gynäk.*. Band xvii., H. 5.

SURGICAL operations if at all severe are commonly believed to be attended by much shock and cardiac failure, and it is always a difficulty to decide what should be done when a severe operation is required but general anæsthesia is contra-indicated. Local anæsthetics supply a means by which this difficulty can be overcome in many cases, but under some conditions, such as in radical uterine operations, local anæsthetics cannot be applied to any great advantage. Here the surgeon is faced with the alternative risks either of a general anæsthetic or of operating without, and thus running the risk of shock and collapse. The author has used local anæsthetics with success for such operations as colporrhaphy, perineorrhaphy, Alexander-Adam's operation and even for laparotomy, using acetyl chloride and Schleich's solution. Recently three cases required radical operation in which general anæsthesia was contra-indicated, and being cases of extirpation of the uterus per vaginam, local anæsthetics did not offer much hope of success. Therefore it was determined to take the risk and operate without any anæsthetic at all except morphia hypodermically. The first case was an old movable retroflexion in a phthisical, very anæmic patient of 34. Alexander's operation had been previously unsuccessfully performed, the displacement recurred, and was a constant source of trouble, giving rise to severe bleedings, bearing down pain in the rectum and painful micturition. Extirpation of the uterus offered the surest means of curing these troubles and of preventing a possible pregnancy which would have seriously endangered the patient. The operation was performed entirely without anæsthesia except morphia, and was only attended by pain at four momentary periods of the operation, viz., when the two lower parts and two upper parts of the broad ligaments were tied off and cut. The operation lasted 25 minutes, and was followed by a perfectly smooth convalescence. Three months later the patient was much improved in all respects.

The second case was one of total prolapse of the uterus in a woman of 69, which pessary treatment was powerless to relieve. General anæsthesia was contra-indicated on account of "strumous" disease, and so the uterus was extirpated and anterior and posterior colporrhaphy performed without any anæsthetic but morphia, except during the perineal plastic operation in which Schleich's solution was used locally. Pain was only felt at the same four periods as in the

preceding case, the division of the vaginal fornices and separation of the bladder being apparently not felt. Convalescence occurred without any bad symptoms.

The third case was a virgin of 70, who had carcinoma of the cervix of recent origin. As she was very weakly and had definite degeneration of the heart muscle, general anæsthesia was contra-indicated. As a considerable portion of the vaginal wall had to be removed and as even a trifling pain was to be avoided if possible in so weakly a patient, a weak Schleich's solution was injected into the para-vaginal tissues and bases of the broad ligaments. Also on account of the narrow vulval outlet an incision had to be made in the perineum under Schleich's local anæsthesia. With these precautions the operation proved quite painless, with the exception of the sutures for the perineum. The patient slept some time after the operation, took some broth and wine and spoke to the nurse; two and a half hours after the operation she died suddenly. An embolism was suspected, but the *post-mortem* examination showed this not to be the case. However, a high degree of heart muscle degeneration was found together with dilatation of the ventricles, which no doubt with the shock of the operation brought about her death.

THOS. G. STEVENS.

Fibromyoma of the Vagina.

POTEL (G.). *Rev. de Gynécol. et de Chir. Abd.*, May-June, 1903. No. 3.

THIS paper is based on 160 reported cases, two of which came under the observation of the writer. An analysis of the cases throws no light on the question of ætiology.

The tumours may be either pedunculated or sessile, the former being the more common. In the sessile variety the tumour generally possesses a capsule from which it can be enucleated, but sometimes there is no capsule, and the new growth is then intimately connected with the surrounding tissues.

The tumours vary much in size. Sometimes they are small, at other times they completely fill the vagina, and may cause an abdominal swelling. They are generally single. The co-existence of fibrous tumours of the uterus and vagina is rare. The tumour may arise from any part of the vagina, but the anterior wall is most often involved; growth is slow.

The growth is generally composed of fibrous and muscular tissue in varying proportions; in only five of the writer's collected cases was the tumour stated to be a pure fibroma. In a single case, reported by Kaschewarowa, a pedunculated tumour growing from the anterior vaginal wall of a girl of 15 contained striped muscle fibres. The tumour was easily removed, but it quickly recurred, and its necrosis led to septic infection, from which the patient died.

The symptoms produced by these fibromyomatous tumours are: Pain, seldom severe; hæmorrhage, menorrhagia is rare, but irregular hæmorrhages are common and are sometimes severe; urinary troubles of various sorts are common; labour may be interfered with if the tumour be large—four such cases are recorded.

Removal of a pedunculated tumour is easy and simple; enucleation of an encapsulated sessile tumour may be simple, but where there is no capsule, especially if the toumour be a large one, the operation may be very difficult.

G. Drummond Robinson.

Ovarian Teratoma composed almost entirely of Thyroid-gland Tissue.

Glockner. *Zentralblatt für Gynäkologie*, June 27, 1903.

The tumour was removed during ventrofixation for prolapse. It had not been diagnosed; the opposite ovary was healthy. There was no ascites and no enlargement of the thyroid gland. The tumour was egg-shaped and measured when hardened 8 × 6 cm. The surface was nodular, firm in consistence, but elastic in places. On section numerous cystic spaces filled with golden honey-like substance were seen, and in the fibrous tissue between these spaces smaller cysts could be seen with a lens. Microscopically, at the periphery of the growth was seen a small zone of connective tissue containing twisted vessels and corpora albicantia, but no follicles. The rest of the growth was almost entirely made up of tissue resembling hypertrophied thyroid gland, *i.e.*, cysts and tubules filled with colloid substance and lined by cubical or flattened epithelium. In places the tissue formed a loose meshwork, filled with colloid substance and covered with a layer of flattened cells. The tissue between the colloid spaces was fibrillary and vascular in places, homogeneous and hyaline in others; in the latter epithelial elements in the shape of small cysts and cell masses lay embedded. The colloid substance responded to all the staining tests. Calcareous deposits were noticed in the colloid and

in the connective tissue. A small island of cartilage and what appeared to be sweat glands were found. Gottschalk described a malignant tumour under the name folliculoma malignum ovarii, which arose, according to his view, from the wall of the primordial follicle. Kretschmar showed a similar case at Giessen as an endothelmia. After examining Kretchmar's sections and Gottschalk's drawings, Glockner regards both their specimens as teratomata in which thyroid tissue is present as in his own. Glockner's view of the nature of these tumours is shared by Pick, who wished the nomenclature struma thyreoidea ovarii aberrata to be adopted for them. This term Glockner objects to, as it reminded one of struma lipomatodes aberrans renis of Grawitz, which was a totally different thing. Whilst histologically Gottschalk's, Kretschmar's, and Glockner's specimens agree, anatomically and clinically, the two former were malignant, the latter benign. An analogous discrepancy is met with in goitre.

CUTHBERT LOCKYER.

Ovarian Opotherapy.

JAYLE. *Rev. de Gynécol. et de Chir. Abd.*, May and June, 1903. No. 3.

THE writer discusses the treatment of certain conditions by subcutaneous injection of an extract made from the ovaries of healthy animals, and comes to the following conclusions:—

1. The ovarian opotherapy of Brown-Séquard has no scientific foundation, and has had no durable success.

2. Ovarian Opotherapy may be employed in the treatment of symptoms due to the menopause natural or artificial, in certain cases of anæmia and chlorosis and in various conditions due to disease of the ovaries. The results may be good, but are not constant.

G. DRUMMOND ROBINSON.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

Meeting, Wednesday, July 1st, 1903, EDWARD MALINS, M.D., *President, in the Chair.*

Mr. SIDNEY STEPHENSON opened a discussion on

Ophthalmia Neonatorum, its Ætiology and Prevention.

The author, in opening the discussion, remarked that ophthalmia neonatorum was the cause of more blindness than any other local disease of the eyes, excepting atrophy of the optic nerve. Competent authorities estimated that it accounted for upwards of 10 per cent. of the cases of blindness. In the United Kingdom alone the individuals blinded by the disorder probably represented a yearly burden upon the commonwealth of upwards of one-third of a million pounds sterling. Yet ophthalmia neonatorum may be prevented by the adoption of a few simple precautions. Of 1,498 cases of ophthalmia neonatorum, gonococci were demonstrated in 60·17 per cent. Amongst the other micro-organisms sometimes associated with the disease were the following:—Pneumococci, Koch-Weeks' bacilli, Morax's diplobacilli, *Bacterium coli*, Klebs-Löffler bacilli, pneumobacilli, pyococci, streptococci, and *Micrococci lutea.*

The author laid considerable stress upon the bacteriological examination of the pus from the conjunctiva, as the mere clinical diagnosis of the disease lay open to serious fallacies, of which he quoted instances. It was pointed out that infection of the baby's eyes with gonococci might come about in three places:—(1) In the maternal passages, either before or during the act of birth; (2) almost immediately after birth, or (3) one or several days after birth. Although the second was by far the commonest mode of infection, yet cases were quoted to show that rarely the eyes might get infected *in utero.* With regard to prevention, the author voiced the great advantages of Credé's method, the alleged drawbacks to which were severally examined and criticised. The only disadvantage of the method admitted by the author was the almost constant production of an insignificant conjunctiral catarrh. An analysis of cases treated by different agents brought to light the fact that a 2 per cent. solution of silver nitrate was by far the best prophylactic remedy. Protargol and solutions of corrosive sublimate were good, but inferior to the silver.

Dr. HERMAN said that Mr. Stephenson's paper was a very important one, and it was to be hoped that it would do great good in extending among the profession that knowledge of how to prevent ophthalmia neonatorum. The mass of evidence collected by Mr. Stephenson clearly showed the superiority of the 2 per cent. solution of nitrate of silver originally recommended by Credé to every substitute that had as yet been tried. At the general Lying-in Hospital some years ago several cases of ophthalmia neonatorum occurred, in spite of the routine instillation of corrosive sublimate solution. The nitrate of silver 2 per cent. solution was then used instead of sublimate solution, as recommended by Credé, and cases of ophthalmia at once ceased to occur. He had published this bit of experience in the

Lancet at the time. He found much difficulty in advising students what to do. The objection to Credé's method was, that it always produced some conjunctivitis. This was really only a trifle, but from a mother's point of view it was a great thing; and a young practitioner who should give people occasion to say of him that he always did something to newly-born children which inflamed their eyes would be much handicapped in practice, and he could not explain to his patient that he did it lest the eyes should be infected with gonorrhœa.

He thought that the best thing to teach was that the practitioner should enquire into the presence or not of vaginal discharge, and if there was discharge or any history or symptoms suggesting the possible presence of the gonococcus he should use nitrate of silver, but if there was no suspicion of gonorrhœa he should be content to use 1–2000 sublimate solution, which, as Dr. Stephenson had shown, was a very efficient germicide, although not so powerful as the 2 per cent. nitrate of silver solution. Dr. Stephenson's careful analysis of the cases in which Credé's method was said to have done harm, showed how hollow all the graver objections were which had been raised against it.

Dr. WALTER SWAYNE said that he wished to emphasise Dr. Herman's point about the young practitioner. Having the supervision of a maternity charity in which, as in all the London hospitals with medical schools attached, the work was carried on by students, he felt certain that the work would fall off if it was found that the use of Credé's method, although it was universally acknowledged to be the best, gave the public the opportunity for saying that the babies got sore eyes in consequence.

On this account in the maternity department a weak solution of corrosive sublimate was used instead of nitrate of silver. He also thought it would be interesting to hear the experience of others in large provincial towns. In his own locality the customs and habits of the mining population lead to the pregnant women being very liable to gonorrhœal infection, and consequently a large proportion of gonorrhœal ophthalmia would be expected. In his experience, however, and in spite of this, the actual number of cases if true gonorrhœal ophthalmia, as endorsed by microscopical examination and bacteriological cultivation was small.

Mr. TREACHER COLLINS pointed out that one circumstance which rendered new-born children liable to ophthalmia was that they secreted no tears. If an irritant were introduced into the conjunctiva of any but an infant's eye there was at once a rush of tears, which mechanically tended to wash it away. The tears moreover had been shown to have a bactericidal action. It was to supply new-born infants with these means of defence, which were developed later in life, to which their endeavours should be directed. If the conjunctiva immediately after birth was simply washed with water it had been shown that the number of cases of ophthalmia were reduced, but if a sufficiently powerful bactericidal fluid was used they could almost entirely be done away with. It was satisfactory to know that the amount of ophthalmia neonatorum was decreasing. In 1885 the number of cases coming to Moorfields Hospital was about 1 to every 200 patients, now it was about 1 to every 400. Blindness was also decreasing; the last census had shown that though the population of London had largely increased, the number of blind people had decreased.

When a case of ophthalmia neonatorum came under his care he was in the habit of asking if the mother had been attended by a doctor or a midwife. He was sorry to say that he found nearly half the cases had been attended by medical men. This, he thought, showed that the

profession generally did not yet realise the great value of employing prophylactic measures against this disease. Ophthalmia noneatorum was not only preventable, but might be cured without loss of sight, if dealt with sufficiently early and skilfully treated. Obviously, midwives could not be trusted to undertake such treatment. Unfortunately he often found that valuable time was lost by mothers using lotions suggested by them. He asked if it would not be possible for the Midwives' Board, now drawing up rules for midwives, to make it compulsory for them to call in a medical man to a case occurring in their practice, or to notify it to the medical officer of health for the district.

Dr. W. S. GRIFFITH wished to thank Dr. Stephenson for his valuable paper, and hoped that it would convince the Council of the Society of the need for revising their directions to midwives in regard to this matter. His experience at Queen Charlotte's had convinced him, even before he had the advantage of Mr. Stephenson as a colleague, and Dr. Sikes in the Pathological Laboratory, of the undoubted superiority of the silver nitrate, and he regarded the very small percentage of imperfect results not as failures of the method, but as failures in carrying it out; and this is not to be wondered at when we realise the difficulties of disinfection of a little baby's eye-lids, in comparison with the same process in an adult. At the same time, in his own practice, he did not use it as a routine procedure in private, being satisfied to use it in all cases in which he suspected gonorrhœal infection, and for the rest he was satisfied to thoroughly cleanse the eyelids, nose and lips with an ample wash with mercuric iodide, 1–1000 as soon as the head was born, and before the child opened its eyes or attempted to breathe, and he had no reason to be dissatisfied with the results. Dilute mercury solutions 1–2000 or 1–4000 or less were utterly unreliable. Boracic solutions were little better than plain water.

Dr. CULLINGWORTH expressed the pleasure with which he had listened to the paper. The time had come when it was highly desirable that the subject should be again brought before the Society and the profession. In advocating legislation for improving the training and controlling the practice of midwives, he had always regarded the prevalence of blindness due to preventable causes as one of the strongest and most telling arguments, and he had frequently made use of it, but in doing so he had found himself seriously hampered by having to fall back upon the statistics of nearly twenty years ago. The present paper furnished fresh statistics, but not a whit less startling and convincing than those collected and published by the Ophthalmological Society in 1884, and would be extremely useful even from that point of view alone. With regard to the modes of infection enumerated by the author, no doubt, as he himself had said, the ordinary source of infection was the presence of gonorrhœal secretion in the vagina of the mother at the time of parturition, but this was not the only source. He (the speaker) remembered being present many years ago at a Cæsarean operation resulting in the birth of a living child, which in the course of a day or two presented all the symptoms of an acute purulent ophthalmia. He was not sure that he could quote chapter and verse for the statement, for he was uncertain whether the case had been published. It was a matter about which, however, he was not likely to be mistaken, as it created much interest at the time from being so contrary to all that was then believed and known on the subject. In that case it was manifest that whatever the source of infection it was not the secretion of the maternal pasages.

The question of preventive measures interested more particularly on account of his happening to be a member of the Central Midwives' Board, the body which had been entrusted, under the new Midwives' Act, with the duty of formulating rules and regulations for the training and practice of midwives in this country. The rules which had been drawn up were now in the hands of the Privy Council, and had not yet assumed their final shape. It was, therefore, impossible to say whether, when they came to be published, they would be found to contain a satisfactory injunction with regard to the disinfection of the child's eyes or not. For his own part, he sincerely hoped they would. He had not been aware until quite recently of the great divergence of opinion that existed in the medical profession as to the need for and wisdom of such a measure. He trusted that the paper just read would do much to remove this divergence.

With regard to the particular solution to be recommended, he was glad that the author, whilst upholding the silver nitrate solution as the best, spoke highly of the efficiency of the solution of corrosive sublimate, which undoubtedly for ordinary use had certain advantages. It was important, for example, not to render it compulsory for a midwife to carry more than one kind of antiseptic. To make her carry several kinds not only tended to still further overburden her already overburdened bag, but was also in danger of confusing her mind. If it was desired that the use of antiseptics in midwifery should become general the instructions for their use must not be too complicated. It was all very well in hospital, when the solutions are all in readiness and supervision is constant. There, by all means, let the ideally best method be carried out. But let them imagine, on the other hand, the district midwife in a remote country place, where her loyal efforts to carry out in full detail the methods in which she has been trained are not seldom ridiculed, instead of being encouraged by the neighbouring practitioner, upon whom she is dependent for help in her difficulties. Let them imagine what would be said if, in addition to the ordinary basins of antiseptic solution, themselves far too often an object of contempt and ridicule, she produced a little phial of silver nitrate eye-drops. The contempt and ridicule would know no bounds, and there would be a fear lest the poor woman should, in her bewilderment and despair, give up all attempts at antiseptics. For these reasons, amongst others, he thought that for general use in the homes of patients, the solution of corrosive sublimate, though it might not be ideally the best, was the most suitable.

In the rules about to be issued by the Central Midwives' Board, although the use of antiseptics is repeatedly enjoined, it had been thought undesirable to go into details as to the kind and strength of the antiseptic to be used. For all such details would require to be modified as knowledge advanced, and it would be inconvenient to have them embodied in rules which when approved by the Privy Council, will have the effect of law and will be difficult to alter. Might he mention, by way of illustration, the solution of the biniodide of mercury to which several speakers had alluded. He was informed by competent chemists that the efficiency of solutions of the salts of mercury depends upon their ionization, and that ionization only occurs satisfactorily in simple watery solutions of one mercurial salt. If another salt is present ionization is interfered with.

Now it was well known that iodide of mercury is almost insoluble in plain water, but is freely soluble in a solution of potassium iodide, with which it is almost invariably combined. Hence it is doubted by chemists whether the ordinary solution of the biniodide of mercury, not being a

simple aqueous solution, has any antiseptic value. He was not himself enough of a chemist to speak with any authority on the subject, and probably the matter would be decided rather upon the results of clinical and bacteriological experiment than upon chemical theory. Meantime, he had merely given this as an instance of the manner in which accepted methods may be called in question, and may have to be modified or cast aside in the light of fresh knowledge.

Dr. Amand Routh was impressed by the strength of the advice that the Obstetrical Society should change their recommendation as regards the routine use of corrosive sublimate solution for the eyes of the new-born, and should adopt in its place a 2 per cent. solution of nitrate of silver. The difficulties of such a routine use had been fully stated. He had been interested to hear from Dr. Griffith, who strongly advocated the change suggested by Mr. Stephenson, that whilst he wished all midwives to adopt this course he did not find it advisable to do so himself, and this made his advice somewhat unpractical. If the nitrate of silver was only to be used in special cases it was at once obvious that the special cases would have to be very clearly defined, and that was where the difficulty would be in any half and half measures. The difficulty of preparing and of keeping the solution always fresh would militate against its routine use, and these were among the points which had led the Council of the Society hitherto to advise the corrosive sublimate solution, which was always at hand, and very easily prepared. Dr. Routh then read the rules of the Society bearing on the subject, and also those making it imperative that midwives should at once send for a doctor should the eyes show any symptoms of inflammation. He asked if in the recorded cases of congenital (intra-uterine infection) gonorrhœal ophthalmia infection of other mucous membranes had been observed, and also whether changes in the liquor amnion had been observed.

Dr. Peter Horrocks said that up to five years ago, when he was seeing out-patients in the gynæcological department at Guy's Hospital, he used to send specimens to the bacteriological department. He did not remember to have been assisted in the diagnosis of gonorrhœa in a single instance. Pus was taken from the urethra, the vagina and the cervix uteri. In cases of undoubted gonorrhœa often enough the report was negative, and no gonococci could be found. When gonococci were found it was only when the case was clearly gonorrhœa and where there was no difficulty at all in the diagnosis. In cases of chronic vaginitis, where it would have been a real help, the bacteriologists could find no gonococci. They used to say that enough pus was not sent. They wanted a teaspoonful. He did not know whether improvements had been made during the last five years, so that it was now a much easier matter to detect the gonococcus, or whether, whilst still difficult in regard to vaginal gonorrhœa, it was easy in gonorrhœal ophthalmia. It certainly was a thing to be desired, and he often wished it was as easy to test secretions for gonorrhœa as it was to find out whether they were alkaline or acid by means of litmus paper. Because, obviously, if one could tell easily in any given case whether a woman were suffering from a gonorrhœal vaginitis or a child from a gonorrhœal ophthmia, then suitable treatment could be carried out in these cases, whilst healthy women and children could be let alone..

The author of the paper had stated that 10 per cent. of children suffered from ophthalmia, and he thought this was too high a percentage, particularly in places where modern aseptic midwifery was practised.

But even if it were so high, that would leave 90 per cent. of children who did not suffer from ophthalmia. Obviously when routine measures of dropping germicidal solutions into the eyes of every newly-born child were adopted they did no good at all in 90 per cent. of cases. If it could be shown conclusively that they did no harm he would join in advocating these routine prophylactic measures. But he did not think it had been proved that no harm was ever done by this routine treatment, and therefore one had to consider whether 90 per cent. of children should be put to some risk for the sake of benefit to the other 10 per cent. Again, supposing prophylactic measures were not used, and a child showed signs of commencing ophthalmia, would it not be an easy matter to treat it successfully by starting the application of these germicidal remedies? One speaker had spoken of the reduction in the number of cases of ophthalmia neonatorum at Moorfields Eye Hospital since the routine method of using germicidal solutions to the eyes of newly-born children. But was not this diminution due, in part at all events, to the aseptic methods of the nurse and doctor at the confinement? Look at the routine method of vaginal syringing in labour. At one time it was thought to be absolutely necessary in order to prevent puerperal sepsis. Whereas it had been shown to be unnecessary in healthy women and in normal confinements, and, indeed, it was a positive danger. In his own lying-in ward at Guy's Hospital he did not allow routine syringing in normal cases, and no one could have better results in regard to the normal puerperium. He could not help feeling glad that he had not been born in 1903 at Queen Charlotte's Hospital. He was born in pre-aseptic days, and no solutions were dropped into his eyes, and he certainly never had suffered from ophthalmia. He did not see why a selection should not be made, and only those children treated where there was a suspicion of gonorrhœa in the mother or of a commencing ophthalmia in the child. This would save at least 90 per cent., probably considerably more, from any such treatment. He thought that not only experts like obstetricians, but also the rank and file of the profession could tell with great accuracy whether a woman was healthy or not. Very few mistakes would be made, and even if a gonorrhœa were latent and only showed itself by ophthalmia beginning in the child such a case would be extremely rare and could be at once treated, and in all probability effectually cured.

Dr. Boxall considered that strong reasons exist for the adoption of routine measures for the prevention of ophthalmia neonatorum, and more particularly in the practice of students and midwives. Mention has been made of 10 per cent. as representing the incidence of the disease when no prophlactic measures are taken. But even were it 3 per cent. or even less he saw good grounds for adopting a routine practice of prevention. For, in the first place, the disease when allowed to become established is so difficult to cure and so disastrous in its consequences that preventive rather than curative measures are demanded. And seeing that in the hands of the experienced practitioner it is difficult, and in many cases impossible, to decide at the time of delivery in what particular cases the source of infection may be lurking in the vagina in the hands of midwives, who cannot be expected to form an opinion as to the existence of latent gonorrhœa, routine measures are absolutely necessary. Among these he desired to draw attention to the distinct advantage in the prevention of ophthalmia, which he had noted years ago at the General Lying-in Hospital, following the routine use of sublimate vaginal douches before delivery at a time when no systematic antiseptic treatment of the

infants' eyes was carried out. At the present time, as a routine practice, the infants' eyes are freely flushed with 1 in 1,000 sublimate solution at the time of delivery, which probably brings to bear on the conjunctival surfaces about the same amount of antiseptic as 1 minim of 1 in 100 solution dropped directly into the eye, and has the additional advantage of mechanically washing away any discharge which may have found lodgement between the eye-lids.

Dr. SIKES said he thoroughly agreed with Dr. Boxall as to the necessity for the routine treatment of children's eyes in hospitals and by midwives. In lying-in hospitals, as Queen Charlotte's, there was no difficulty in the carrying out of the method, but of course there were the difficulties mentioned as to the employment of the silver nitrate method by midwives at the homes of patients. He thought that with hospital patients it was absolutely necessary to have a routine treatment, as it was impossible to tell whether the mothers had not at some time been infected, and it was quite possible that the gonococci might be present, even though the discharge had ceased; and under these circumstances one could not pick out those cases which ought and which ought not to be treated with antiseptics. Statistics, as quoted by Dr. Stephenson, undoubtedly showed that the best results were to be obtained with silver nitrate, and surely they ought as a Society to recommend what gave the best results. The only point, Dr. Sikes thought, was the strength of the silver nitrate which ought to be used. With regard to the difficulty mentioned by two of the previous speakers that silver nitrate solution would not keep for any time, Dr. Sikes did not agree with this. He said that he knew from experience that it would keep much longer than was generally supposed if care was taken to keep it in well stoppered bottles of coloured glass; he did not see why there should be any difficulty in getting midwives to carry with them a small bottle of silver nitrate. The reaction of the eyes to silver nitrate was a difficulty to those not accustomed to its use, as it varied roughly between 3 and 36 hours, but we ought to try to introduce, at least amongst hospital patients, that which gave the best results.

One point, the difficulty of which he thought has been very much overestimated by one at least of the previous speakers, was the detection of the gonococcus. Dr. Horrocks had said that he had been told that it was necessary to send about a teaspoonful of the pus for the detection of the organism! Dr. Sikes said he had examined a great many cases of pus from the vagina and from the eyes at Queen Charlotte's Hospital, and had come to the same conclusion which many others had come to, that it was really a very easy matter. The gonococcus was very readily stained, had a very characteristic appearance and grouping in the cells, and even without using Gram's method or attempting cultivations one could tell from the appearance alone to within, say, 99 per cent. of all cases. One point of interest in connection with the examination of the conjunctiva for organism was mentioned by Dr. Eyre in his paper on "A Contribution to the Bacterol. of the Normal Conjunctival Sac," that is, that the lower sac was more likely to contain organisms than the upper; so that it is better to examine the lower sac in suspected cases. In the same paper Dr. Eyre mentioned results he had obtained showing the inhibitory action of the lachrymal secretion on the growth of bacteria.

With regard to the examination for gonococci in the vagina, Dr. Sikes mentioned that his experience was that the most certain way of finding the organism was by taking a scraping with the wire loop directly from the cervix, using a Ferguson's speculum to get a clear view. Many cases

clinically gonococcal are missed because the coverslip preparation is so often made from the pus about the entrance to the vagina. The presence of sarcinæ, mentioned in the statistics from Queen Charlott's Hospital in Dr. Stephenson's paper, were probably due to the proximity of the hospital to a brewery; they were more often found in the latter months of the summer; they were of course quite innocuous. Dr. Sikes insisted on the early bacteriological examination of all sore eyes in newly-born children, and also of any vaginal discharge in the mother, so that if gonococci were found even greater care might be taken so as to prevent the cases arising by infection from the mother after birth.

Dr. CUTHBERT LOCKYER said he was pleased to note that the author advocated that the Obstetrical Society should use its powerful influence in helping to bring about the universal adoption of Credé's instillation as the only reliable prophylactic measure for the prevention of ophthalmia neonatorum. In the *Journal of Obstetrics and Gynæcology of the British Empire*, Vol. iii., No. 4, pp. 361, Dr. Lockyer drew attention to the fact that this method was quite unknown to the candidates for the certificates given by the Obstetrical Society, unknown because untaught! Dr. Lockyer mentioned the experiments conducted in the obstetric wards of the Bonn Frauen klinic by Fritz Engelmann, in which, having regard to the bad results obtained by Cramer with silver nitrate, Engelmann employed protargol as a substitute, and found that by using a 2 per cent. solution of this salt he got the equivalent prophylactic action to that of 2 per cent. silver nitrate, but without exciting anything like so much inflammatory reaction. Whilst Cramer found no reaction in only 4 per cent. of cases with 2 per cent. solution of nitrate of silver Engelmann could boast of 80 per cent. of cases in which protargol was employed without any sign of irritation. In no instances was secondary catarrh noted, whereas that trouble was met with in 11 per cent. of Cramer's subjects. Bischoff, Engelmann's successor at Bonn, uses a 1 per cent. solution of acetate of silver which he regards as equal to 2 per cent. silver nitrate in germicidal activity, and considers that the so-called "silver reaction" is so harmless and slight as to present no argument against the eye instillation as practised by Credé.

Dr. SYDNEY STEPHENSON, in reply, said it was significant that, notwithstanding the various opinions expressed, no single instance had been brought forward during the discussion where bad results had followed the adoption of Credé's method. He was convinced that it was the best available plan of prophylaxis, and he appealed to the Society to recommend it for general adoption. In that way the profession, and ultimately the public, might be reached. In reply to Dr. Routh, Mr. Stephenson stated that a purulent vulvitis was present in Armaignac's case of intra-uterine infection of the eyes. In two cases of his own there had been a simultaneous otorrhœa, but gonococci could not be demonstrated in the discharge from the ear. Mr. Stephenson trusted that Dr. Horrock's case of ophthalmia in a baby delivered by Cæsarean section might be published in full, since it testified to the possibility of an intra-uterine infection of the eyes. He agreed with Mr. E. T. Collins's suggestions with regard to the notification of ophthalmia neonatorum, as carried out in certain countries.

As to the prophylactic use of corrosive sublimate, mentioned by several speakers, Mr. Stephenson said that the results so far obtained with a 1 per cent. solution (as with a 20 per cent. solution of protargol) were excellent, but the figures available were not yet large enough to allow one

to recommend its general adoption. Besides by some observers sublimate was thought to be detrimental to the corneæ of babies. In Mr. Stephenson's experience a 2 per cent. solution of nitrate of silver kept well enough, provided it was placed in an amber-coloured bottle and kept away from the light.

Mr. H. J. CURTIS read a short communication on

Extirpation of Uterus and Vagina in a Child 12 months old for "grape-like" Sarcoma of the Cervix fungating into and infiltrating the walls of the "Vagina."

And the paper was discussed by Dr. HORROCKS, Dr. HERBERT SPENCER, Dr. LEWERS and Dr. HEYWOOD SMITH.

Dr. LEWERS showed a specimen of *Carcinoma of the Cervix*, complicating tubal pregnancy, in which vaginal hysterectomy had been performed. Dr. AMAND ROUTH, Dr. HERMAN and Dr. HEYWOOD SMITH joined in the discussion which followed.

Lieut.-Col. STURMER showed a specimen of *Fibro-myoma of the Ovary.*

BRITISH GYNÆCOLOGICAL SOCIETY.

Meeting, June 11th, 1903, the President (DR. HEYWOOD SMITH) *in the Chair.*

Dr. C. H. F. ROUTH read a paper on

Some Directions and Avenues through which Cancer may possibly be more successfully treated and perhaps cured.

He considered cancer to be hereditary, inoculable and occasionally communicable from one person to another; to be favoured by certain localities and to be nearly everywhere on the increase; and that though the particular micro-organism to which it was due had not been determined, the disease might safely be accepted as of specific origin. It had been known to disappear spontaneously, and experiments suggested that this was owing to the growth having been acted on by oxygen. Reviewing the effects of oxygenation on the bacteria of chronic ulcers, on tubercle, and on abdominal dropsy; the effect of vibrations, simple and electrical, on the life of some bacteria; the treatment of diphtheria by antitoxins produced by electrolysis; and the power of liquid hydrogen to destroy bacteria, such as the typhoid bacillus, and the probability of its similar action in cancer, Dr. Routh suggested as measures to be taken for the prevention and treatment of cancer—the supply of pure water and efficient drainage, especially by the electrolysation of sea water; the free use of oxygen and the investigation of the possibility of destroying micro-organisms by electrical shock or vibrations, or by the use of liquid air or hydrogen.

Dr. HERBERT SNOW said investigation had been hampered by using the term "cancer" in the vague sense of a single disease; there were many forms of malignant disease differing from one another in the causes to which they were due and in the clinical phenomena they exhibited. It was, for instance, a great mistake to confuse epithelioma, rarely passing beyond the glands, with carcinoma, in which the blood-current and distant viscera

became infected. To get any clue to the origin of cancer the first thing to be done was to differentiate all the forms of the disease and examine them separately. He could not agree that cancer was hereditary, and thought it was rarely, if ever, communicated. The statement that certain localities seemed favourable to it was open to the objection that in the so-called "cancer houses" the cases were of different varieties of the disease. He did not admit that cancer ever disappeared spontaneously. If the disease was due to a parasite, in causing the duplication in remote parts of the histological structure which characterised the original growth, that parasite differed from any other known as the cause of disease. The treatment by oxygen and the proposal to destroy the micro-organism by vibrations depended on the idea that cancer was due to some organism, but he thought that there was the strongest presumption that it was not so.

Dr. Bedford Fenwick had for sixteen years made systematic enquiries in every case of malignant disease, a very large number, that came before him; he had never met with one in which the disease had been communicated, in very few was there any reason to suppose it hereditary, and in only one had a previous occupant of the patient's house been known to suffer from cancer.

Mr. Skene Keith was sure that there was a tendency to cancer in certain families, but did not consider that its communicability had been proved. He had known a cancer to disappear as in the case of papilloma mentioned by Dr. Routh. Under the X-ray treatment many cases seemed to do well, and he had no doubt that an explanation of the disease would be found, probably after some cure had been discovered.

Dr. Mansell Moullin did not think papilloma to be malignant, certainly not so in its early stages.

The President related a case in which he believed cancer had been conveyed from one operation case to another four days later.

Dr Routh having replied,

Dr. Mansell Moullin read a paper on

The Treatment of Hæmatocolpos and Hæmatometra.

When the atresia was situated at the vaginal orifice or at the cervix the conditions were far less formidable than when the vagina was partially or entirely wanting. In the former cases he recommended free incision and gentle douching. The great danger to be feared and avoided was sepsis; reflux through the Fallopian tubes from contraction of the uterus need not be feared, as the retention of the fluid implied that the cavity was closed at its upper as well as at its lower end, and the freer the exit the less the danger. Whenever dissection would be necessary to reach the sac he thought the abdomen should be opened. The sac might be incised, evacuated and marsupialised in the abdominal wound, or, better still, the uterus might be removed by subperitoneal hysterectomy at the level of the inner os, the ovaries, if healthy, being left. The remnant of sac left would not be likely to give any trouble.

The paper was discussed by the President, Dr. Snow and Dr. Bedford Fenwick and Dr. Mansell Moullin replied.

BRITISH GYNÆCOLOGICAL SOCIETY.

Meeting held July 9th, 1903, Dr. Heywood Smith, *President, in the Chair.*

Professor J. W. Taylor, (Birmingham), in opening a discussion on

Laceration of the Cervix and their Consequences

said that these accidents were largely preventable, and, owing to better teaching of obstetrics and better practice, were much less frequent in some districts than in others. The larger number of them were of a minor degree, and, like limited tears of the perineum, generally healed in the right direction, and were of little importance save as possible channels of infection, but the more extensive tears, besides being a possible cause of fatal puerperal septicæmia, might lead to subinvolution, to serious menorrhagia, to descent and flexion of the uterus, to severe and persistent pain, to cervicitis, abortion, or sterility and, though he thought very rarely, to epithelioma. As regarded treatment, the results of tears involving the uterus only differed widely from those extending beyond it. The former in nearly all cases could be completely cured by plastic repair of the laceration combined perhaps with the preliminary use of the curette. A wedge-shaped excision was, however, often wanted to bring the parts into apposition, and the angle of the tear must be entirely removed. But when the injury extended into the vaginal vault and broad ligament however perfectly the uterus was repaired its malposition and the drag on the cicatrix in the broad ligament were a source of constant pain and discomfort. He had sometimes tried to re-attach the broad ligament to the cervix at the proper level, but had had but partial success, and in the worst cases he thought complete relief could only be obtained by the removal of the uterus. The most careful diagnosis in the strictest sense was of course necessary before such a measure. It was remarkable that while lacerations involving the bladder and rectum might afterwards give rise to no pain an aseptic tear, though it had healed throughout, might be a source of constant discomfort from the drag on the cicatrix. Absolute fixation of the uterus was sometimes, even in the worst cases, a safeguard against pain.

Dr. William Duncan said that one serious immediate result of cervical laceration had no doubt inadvertently been omitted from Professor Taylor's introduction, namely, severe hæmorrhage. It was held that such bleeding could be arrested by hot water, or at all events by plugging, but he thought it better surgery to secure the bleeding point and stitch up the laceration at once. He quite agreed that the majority of cases required no treatment whatever, but severe tears might cause all the evil consequences stated. The thinning of the uterus in the neighbourhood of the tear, a point he had not heard described before, would account for a furious hæmorrhage he had encountered while dilating a previously torn cervix with a view to curetting the uterus for subinvolution menorrhagia and leucorrhœa; he was able to secure the bleeding point with the forceps, which he left on for 48 hours; he curetted the uterus, and the patient did perflectly well.

Mr. W. D. Spanton thought that it was owing to the impatience of younger practitioners and the freer use of instruments that we now had to deal with lacerations of the cervix instead of fistulæ caused by undue delay. Their chief significance was in their remote results; he had several times seen hypertrophy of the lips of the cervix followed by malignant

growth, and was convinced that epithelioma in a considerable proportion of cases had its origin in this manner.

Mr. Bowreman Jessett looked upon panhysterectomy as too radical a proceeding; he had had good results from supravaginal amputation. Laceration certainly preceded epithelioma in a considerable number of cases.

Dr. T. A. Helme (Manchester) was convinced that apart from hæmorrhage, primary or secondary, and from sepsis, mere laceration was unimportant.

Mr. Skene Keith advocated operation for the repair of the cervix, but insisted upon the necessity of removing every atom of cicatricial tissue. It was difficult to decide whether epithelioma was a direct sequel to laceration, but he had never seen it affect a virgin uterus.

Dr. Macnaughton Jones concurred in Professor Taylor's views of the serious nature of the sequlæ of deep lacerations, and dwelt especially upon their influence upon conception, or if such took place, upon pregnancy and labour. He thought every woman should be systematically examined after childbirth with a view to the repair of any serious laceration of the cervix.

Dr. Mansell Moullin said that though laceration in itself was not of much importance, it had important complications, such as inflammation of the adnexa. Ectropion, of course, called for treatment. Of hæmorrhage he had no personal experience.

Mr. George Keith also spoke.

The President said that the discussion showed that, quite independent of their immediate effects, all lacerations of the cervix should be watched and in each case treated according to circumstances; he mentioned that for some cases for which Emmet's operatilon was hardly necessary the actual cautery, or still better the application of potassa fusa, gave excellent results.

Professor Taylor briefly replied, explaining that he had not dwelt upon the immediate results, as they were not so directly in the province of gynæcology as the latter ones. He quite recognised the danger of hæmorrhage, and that it was primary or secondary sepsis that gave rise to most of the evil results of laceration, and also that in operating all cicatricial tissue should be removed.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Ordinary Meeting, held at Leeds, Friday, May 15th, 1903, the President, Dr. J. E. Gemmell, *in the Chair.*

Card Specimens.

Dr. J. E. Hellier (Leeds) showed a series.

Dr. E. O. Croft (Leeds) showed *Two Uteri* removed for early squamous celled carcinoma of the cervix in the one case, and cervical carcinoma in the other.

Specimens.

Dr. Walter (Manchester) showed a *Degenerating Fibro-myoma of the Uterus*, in parts of which calcareous plates occurred.

Dr. Lloyd Roberts (Manchester) showed a *Tumour Removed from*

the Fimbriated end of the Fallopian Tube During the Course of Laparotomy for Ectopic gestation. It was attached to one or two of the fimbriæ, and its size was that of a small walnut. Its structure was that of a dermoid, cartilage, bone and connective tissue being found, together with necrotic masses which, so far as could be judged, seemed to be of epithelial origin. Drs. WRIGHT and WALTER and the PRESIDENT discussed the specimen.

Dr. W. MCGREGOR YOUNG read notes of a case of

Acute Mercurial Poisoning from Intra-uterine Injection.

This profoundly anæmic patient was delivered with forceps of her fourth child, the placenta was removed by hand, and the uterus thereafter douched out with three pints of a 1 3,000 solution of mercury biniodide. Some collapse followed the removal of the placenta, but for the succeeding 10 days good progress was made, except for the occurrence of about a dozen "faints." On the tenth day a rigor ushered in a temperature of 104·6°, the abdomen was tender and the lochia offensive. Exploration of the uterus led to the removal of a piece of retained placenta, which was not fœtid, and its cavity was again washed out with a solution of mercury biniodide (1 3,000). On the same night constant purging set in, at first of ordinary fœtal matter, later of thin, watery, and bloody stools, resembling prune juice. There were also headache, nausea and vomiting, coppery taste in the mouth, temperature of 104·4°, pulse rate 140. The lochia were still slightly offensive, so the uterus was re-explored, and a large piece of very firmly adherent placenta was detached with difficulty, the uterus being washed out with boric acid solution. This piece also was not offensive. For the next five or six days the patient was extremely ill, but the symptoms gradually diminished. When recovery seemed assured a relapse occurred, and the temperature and pulse-rate became high once more, the stools offensive and frequent, but the lochia remained quite sweet. The symptoms gradually abated, and the patient ultimately made a good recovery. Throughout the illness she suffered, in addition to the symptoms already mentioned, from severe and constant headache, intolerance of light and noise, and stiffness and soreness of the jaws which precluded any attempt at mastication for two or three weeks. There was no ulceration of the mouth, or salivation, although a coppery taste in the mouth was experienced from the time of the first intra-uterine injection.

The PRESIDENT remarked that solutions made by the dissolving of tabloids, if used hurriedly, were apt to be imperfectly mixed, the solution at the bottom of the vessel being stronger than that at the top. The uterus absorbs quickly, and a few ounces of a strong solution may readily cause symptoms of mercurial poisoning. It was difficult to tell in Dr. Young's case whether the diarrhœa was due to the latter or to the sepsis.

Dr. HERBERT ROPER (Leeds) suggested that the uterus might have been perforated at the first operation.

Dr. E. O. CROFT (Leeds) thought it was necessary to advance trauma as the explanation of the symptoms that had been described. He agreed with the President's remarks anent the imperfect solution of powders or tabloids, and commented on the difficulties in distinguishing the diarrhœa of sepsis from that of mercurial poisoning.

Professor C. J. WRIGHT (Leeds) said that for many years he had employed mercurial solutions in no greater strength than 1 5,000 or

even weaker, and he much preferred solutions of boric or weak carbolic acid, where antisepsis was necessary for the puerperal uterus. Some cases of poisoning after the use of mercuric chloride, with several deaths, were published in the *Medical Record* about 1885 or 1886, and it was proved that solutions of a strength of 1 10,000 was quite sufficiently germicidal.

Dr. Lloyd Roberts (Manchester) agreed with Professor Wright that for intra-uterine work weak solutions of boric or carbolic acids, or iodine, were all that was required.

Dr. McGregor Young, in replying, referred to a paper by Professor Marshall, of St. Andrews, on poisoning by mercurial solutions in obstetric practice. This writer thought that many deaths resulted from the use of such solutions, but were not recognised as such. The diagnosis was certainly difficult where a piece of placenta was retained and high temperatures developed. The absence of stomatitis was not against mercurial poisoning, as ulceration of the mouth and ptyalism did not usually occur in these acute cases. There was no question of the uterus having been perforated, as the acute symptoms preceded the operation.

Dr. A. Rabagliati (Bradford) read a paper on

The Causes and Prevention of Cancer.

After a brief review of the principal theories at present before the profession, he propounded his own view that cancer was from first to last a disease of over-feeding. In support of this many illustrative and striking cases were related, and many closely reasoned arguments adduced. In conclusion the writer pointed out the lines of treatment that should be adopted on the basis of his theory.

The paper was discussed by the President, Drs. Lloyd Roberts and Richardson (Leeds), and Dr. Rabagliati replied.

The proceedings then closed.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Meeting held May 27th, 1903, Dr. J. Nigel Stark, *the President, in the Chair.*

The following fresh specimens were shown:—

Dr. Jardine showed *A Child Born by the Breech*, which only lived a few hours, and which had various deformities, external and internal. The *post-mortem* report of the case was given by Dr. Douglas. The scalp was very loose and redundant. The interior of the cranium was normal. There was a double talipes varus. The external genitals wore those of a male, but the penis was impervious, and the scrotum was empty. The abdomen contained a large tumour which before death was thought to have been a distended bladder. The tumour was found to be cystic and to contain a turbid mucoid fluid, which was devoid of fat, but contained many cells similar to the seminal cells which secrete the fluid part of the semen. On either side of the tumour was a tube and ovary. The kidneys were cystic, especially the left. The right one had no ureter attached. The child was probably a transverse hermaphrodite.

Dr. Louise MacIlroy showed for Dr. Kelly a *Large Tumour of the Uterus*, which had been diagnosed as fibroid complicated with malignant disease of the omentum. The clinical history was recounted. On section the whole tumour was found to be attached to the uterus, and on microscopic examination part was found to be malignant.

Dr. Russell showed for Dr. Kerr *Fibroid Uterus* removed by the supravaginal method; *Tube and Ovary* from a case of old standing pelvic inflammation; *Ovarian Cyst* removed from a patient 3½ months pregnant; in all recovery had taken place.

Dr. Stuart Nairne showed *Undeveloped Ovaries* removed from a patient with dysmenorrhœa; *An enlarged Ovary and Tube* removed from a patient from whom a carcinomatous breast had been previously excised; *Colloid Disease of Ovary and Tube; Extra-Uterine Pregnancy Sac.*

Dr. Carstairs Douglas then demonstrated *Saul's Test for Determining whether Milk had been Sterilised or not.* The amount of Pasteurisation which vitiated the test was noted. The test was considered to be due to the presence of a ferment in the milk which was destroyed by boiling.

Dr. Stuart Nairne then read a paper on

Menstrual Epilepsy.

The speaker had begun his observations upon this disease in females in 1886, and had only now thought that he had any progress to report. The histories of a few cases were read, and the effect of treatment upon the fits was touched upon. The treatment advanced was for the cure or improvement of the disease, and was not specially carried out for the sake of the pelvic disease. Dr. Nairne showed a number of sheets to illustrate his views, and attached to the symbols representing menstruation were the number of fits in each case. A number of cases were said to have been so much improved that no fits had since been noted (during a period of even five years). The treatment advocated was dilatation in cases of stenosis, curettage, the application of the actual cautery to the fundus, and removal of the ovaries if diseased.

The paper was discussed by Drs. Adamson, Douglas and MacLellan and the President, the concensus of opinion being that the epilepsy had had nothing to do with the menstrual phenomena, and that disease in the pelvis ought to be treated on its own account. Dr. Adamson made the pertinent remark that the question of other treatment being simultaneously employed had not been noted. Dr. Nairne stated that it had not, and that he did not claim to have cured the disease, but diminished the fits, and he wanted more observation of the complaint from this point of view.

Conjoint Summer Meeting, June 18th, 1903.

The Fellows of the above Society met in the Faculty Hall, in conjunction with those of the Edinburgh Obstetrical Society, to discuss the

Treatment of Septic Pelvic Lesions.

The discussion was introduced by Dr. Howard Kelly, of Baltimore, the honorary President of the Glasgow Society. Dr. Kelly was introduced by Dr. J. Nigel Stark, President, who vacated the chair for the honorary President.

Dr. KELLY, in opening the discussion, stated that he would make a slight alteration in the billet, and thereby increase the scope of the subsequent remarks. He proposed to speak upon the "Indications for particular methods for extirpating the pelvic viscera." As a preliminary he unburdened himself of his views on conservative treatment of the various organs. He advocated very strongly leaving the ovaries, or one of them, unless permanently diseased. He instanced the cases where the ovaries were merely innocently involved in adhesions and where freeing them from adhesions entirely met the case. He then illustrated his remarks by a diagramatic scheme, and indicated that his efforts at preservation of the various structures were in order of importance bestowed upon the ovaries, the tubes and the uterus. He advocated the individualisation of the cases, and mentioned that no one method was applicable to all conditions found in the pelvis. By the aid of quickly drawn chalk diagrams a very lucid demonstration of the various methods of removing the uterus, tubes and ovaries was given:—1. The classic method was described where the ovarian vessels, the round ligament and uterine vessels were tied on one side, and then in the same order were tied on the other, after which the uterus, etc., was removed. 2. The second modification of this was then indicated. The ovarian vessels, the round ligament and the uterine vessels were secured, the cervix was then cut across and the uterine vessels of the other side tied with ligature of the round ligament and the ovarian vessels following. 3. The third method consisted in beginning with the separation of the bladder, followed by section of the cervix, ligature of the uterine arteries, round ligaments and ovarian vessels seriatim from below. 4. The next method was similar to the last, but the cervix was cut from the posterior aspect. 5. The last plan consisted in bisection of the uterus down to the cervix, then lateral section so as to separate the cervix from one half of the split uterus, section of the other half, and ligature of the uterine vessels, the round ligament and the ovarian vessels in order, first on one side then on the other. Certain pathological examples were taken as illustrations for the various methods. 1. A mass of adhesions on one side; ligature from the sounder side in order the ovarian vessels, the round ligament and the uterine vessels, then sever the cervix; next secure the uterine vessels on the other side, and gradually unhinge the pelvic structures round the adhering mass, finally tying the round ligament and ovarian vessels upon the difficult side. 2. Remove the easier side, and secure the vessels between the uterus and the adhesions, and finally remove the adherent structure after having made sufficient room to carry on the desired manipulation. 3. Where both sides were bad; pull up the sides involved, bisect the uterus, and remove separate sides either with the split uterus or after the split uterus had been cut free in order to give more room. 4. Where the uterus, etc., was buried in adhesions and the fundus out of reach; the bladder was separated from the mass, the cervix was caught with forceps, and the uterus bisected from below upwards. The speaker remarked that by one or other of those means a very complicated case was much simplified.

Dr. BERRY HART (Edinburgh) thought that the discourse of Dr. Kelly answered very completely the advocates of the vaginal operation. The abdominal route gave as free access and isolation of the vessels as in the vaginal operation. He expressed the opinion that the two latter methods were a distinct advance in surgery, but also that the technique was not so easy for all as was described.

Prof. CAMERON (Glasgow) drew attention to Dr. Kelly's book, and to one

diagram in particular, which showed the manœuvre whereby the uterine vessels were readily secured. He considered the rolling over of the mass of especial benefit in a difficult case, but that the ease depended very much upon the skill of the individual.

Dr. Brewis (Edinburgh) said that he was quite in accord with the views of Dr. Kelly regarding conservatism in pelvic surgery. He thought that the demonstration given would show how such cases could be simplified. Dr. Brewis agreed that when the ovaries were removed the uterus was of little use, and as its removal gave more room and facilitated the clearing of the pelvis it should be removed at the same time. In his own practice he had not had occasion to resort to bisection of the uterus, but admitted that it would facilitate certain operations. He preferred the abdominal route, as a better view could be thus obtained, and the vermiform appendix could be then inspected.

Dr. J. K. Kelly (Glasgow) remarked that the uterus might have a function apart from menstruation. It had a mechanical function in the pelvis. In his own practice he left the uterus if possible. With regard to conservatism, he thought that the abdominal route had the advantage as the pelvic organs could then be so well inspected; otherwise he considered that the diseased structures could be as easily and as thoroughly removed by the vaginal route.

Dr. Haultain (Edinburgh) said that in regard to conservatism he had great difficulty in recognising a really healthy ovary. He did not know of any definite signs whereby the healthy structure could be recognised. Cases were referred to where he had had to remove pieces of ovaries after other operators had ostensibly removed the entire ovary. He was not sure that he would leave bits of ovaries or puncture cysts in order to avoid oöphorectomy, and that he would like to know what was a pathological ovary.

Mr. Maylard (Glasgow) agreed with the conservative principles enunciated by Dr. Howard Kelly. He thought that the splitting of the uterus where the contents were septic would be a very dangerous procedure. He warned especially the younger men against belittleing such operations.

Dr. Kynoch (Dundee) preferred leaving the uterus, and if necessary it could be treated later. He thought that conservatism was right, and that pregnancy did take place after unilateral oöphorectomy. In some cases it was necessary to remove the uterus. He had had no experience of the vaginal operation at all.

Dr. Haig Ferguson (Edinburgh) agreed with the application of conservative methods, but in some cases where after removal of the mass a large bleeding surface was left then removal of the uterus was necessary; it also obviated the necessity for drainage. He considered the abdominal route the proper one, as by the vaginal route the operation was begun with the intention of removing the uterus. In some special cases the vaginal route was indicated. He did not approve of hysterectomy in puerperal septic cases unless the uterus had been perforated during curettage.

Dr. Buist (Dundee) thought that the vaginal operation was preferable in some cases, and there was less shock. In very bad cases he preferred to attack the disease from the abdomen. He only considered the uterus after removal of the appendages to be useful if mechanically intact. He mentioned a case where conservatism had been the means of his performing a series of operations upon one patient.

Dr. Stark (the President) conveyed the thanks of the Fellows to Dr. Kelly. He asked Dr. Kelly to state whether he considered that the uterus,

etc., should be removed by the vagina; if panhysterectomy should be carried out; and if in all cases the uterus ought to be removed.

In reply, Dr. KELLY mentioned that the vaginal operation was good for conservatism, and that it might be possible to leave all the organs. He said that the tubes might be removed alone. A septic cancerous uterus he would never split; in myomatous uteri he had rarely found that inoculations from the mucous membrane produced a growth; the field of operation could, however, be completely walled off by gauze, so that the danger of infection was reduced to a minimum. The stump of the cervix was left, as it shut off the vagina better and the stumps of the round ligaments could be with advantage stitched to its surface.

The Fellows afterwards dined together in the Windsor Hotel.

EDINBURGH OBSTETRICAL SOCIETY.

Meeting, May 27th, 1903, DR. JAMES RITCHIE, *President, in the Chair.*

SPECIMENS.

Dr. MUNRO KERR showed (*a*) *An Ovarian Pregnancy* as proved by microscopic examination. Villi were found embedded in ovarian tissue, and there was also syncytium. (*b*) *Specimen of Tubercular Salpingitis.* In removing a large ovarian tumour he had found the tube on the other side a good deal swollen, and he removed it. On examination it proved to be tubercular.

Dr. LAMOND LACKIE showed a *Large Fibroid of the Uterus* removed by abdominal hysterectomy, the cervical stump being treated subperitoneally. The operation was undertaken not on account of hæmorrhage, but because of severe pressure symptoms—pains in the legs, pains in the pelvis, and frequently recurring hæmorrhoids.

Dr. MALCOLM CAMPBELL showed for Dr. Barbour Simpson *A Siren Fœtus.* There were only two vessels in the cord.

Dr. ANGUS MACDONALD read a note of a case of

Fatal Tracheal Compression by Enlarged Thyroid in a Newborn Infant.

Tracheotomy was performed without success. Dr. Macdonald reviewed the literature of the subject, and commented on the fact that in the cases recorded chlorate of potash had been administered during pregnancy.

Dr. MUNRO KERR recorded the clinical history of a case of

Chorionepithelioma (Deciduoma Malignum).

The patient, æt. 23, had always good health prior to this illness. She had no family. A miscarriage occurred in September, 1901, and she was curetted in the March and again in the May following. The last curetting was performed by Prof. M. Cameron, who removed a large quantity of *débris*, supposed to be placental tissue. Bleeding then ceased, and temperature became less febrile for a time. When patient passed into Dr. Munro Kerr's hands there was another bleeding. The uterus was explored with the finger, and a large mass was found up at fundus. The diagnosis of

chorionepithelioma was made, and the uterus was removed. The patient died shortly after the operation.

Dr. TEACHER (Glasgow) described the microscopic appearance of the tumour, and discussed the pathology of the growth in general, illustrating his remarks with microscopic and lantern slides.

Dr. JESSIE MACGREGOR read a note of a case of

Cyst of the Labium Minus.

After removal it was proved to be a papillomatous cyst, which was rare in that situation. Dr. Macgregor discussed the possible origin of these cysts. It had been suggested that they arose from a portion of Bartholin's gland, others thought they were developed from the lower end of the Wolffian ducts, while still others held that they were growths from glands in the labium which had become functionless.

EDINBURGH OBSTETRICAL SOCIETY.

Meeting, Wednesday, July 8th, 1903, DR. HAIG FERGUSON *in the Chair.*

SPECIMENS.

Professor SIMPSON showed a *Fibroid Tumour*, 52 lbs. in weight, removed from a lady, æt. 63, whom he had seen nine years previously when he suggested palliative measures. The patient had borne the operation well, and had recovered without a drawback. Dr. M'VIE (Chirnside), under whose care the patient had been, narrated the history of the case. The abdominal enlargement was first noticed in 1877. At that time she consulted Dr. Thomas Keith, who did not recommend operation. The local symptoms from the presence of the tumour had never been severe, but the mental disturbance was great, and at last this was the chief indication for operation.

Professor SIMPSON also showed (*a*) *Tubal Gestation*, with a cast of the of the uterus, thrown off on the very day on which operation had been arranged for; (*b*) *A Large Hydrosalpinx;* (*c*) *A Broad Ligament Cyst.*

Dr. HAULTAIN showed (1) *A Uterus with Multiple Fibroids*, removed by abdominal hysterectomy. Electrical treatment had first been carried out without success. (2) *A Fibroid Growing from the Cervix*, which had burrowed between the rectum and vagina. (3) *A Pyosalpinx* from a patient who had been confined two months before operation, and who at that time had acute septic fever. (4) *A Uterus* which he had curetted on two previous occasions on account of hæmorrhage. This recurred very badly, and, suspecting malignancy, Dr. Haultain removed the uterus. The hæmorrhage, however, proved to be simply from severe endometritis. (5) *Two Ovaries showing Follicular Ovaritis.* (6) *A Portion of an Ovary* which had, at a previous operation by another surgeon, been resected. The portion left behind gave rise to severe symptoms, and Dr. Haultain therefore removed it.

Dr. BREWIS showed (1) *A Tumour* weighing about 20 lb., removed from a patient, æt. 44. The tumour was a fibroid, and was removed on account of severe pain, although for twenty years before it had given rise to no symptoms. (2) *Several small Fibroid Tumours*, all of which had given

rise to urgent symptoms, in contrast to the large tumour which had so long caused no symptoms. (3) *Kidney* removed for adenoma of the suprarenal gland.

COMMUNICATIONS.

Dr. CHURCH read a paper on

Cases in my Private Practice which illustrate some of the Risks of allowing Lactation and Pregnancy to Overlap.

After some general remarks on the subject, Dr. Church narrated the history of ten cases selected from his case-book, in which either mother or child, or both, had suffered in health from allowing lactation and pregnancy to overlap.

Dr. R. J. A. BERRY read a paper on

The Anatomical Variations presented by Two Cases of Twin Monsters, with an Account of their Developmental Explanation.

Case 1 was one of fused female twins. There was a single liver, absence of the gall bladder, a single duodenum and jejunum, and a single pancreas. Case 2 was also one of fused female twins. There were remarkable variations in the heart and great vessels. The other variations were almost identical with the first case. As regards the developmental explanation, whatever theory he adopted must suffice for all variations recorded, and for both cases. Dr. Berry showed the theory of bilateral segmentation in a single ovum to be improbable; hence he adopted the theory of two primitive grooves, developed side by side upon a single ovum without previous bilateral segmentation. He employed this theory to explain all the recorded variations. The theory was substantiated by the results of Miss Duncan's case, published in the *Aberdeen Journal of Anatomy and Anthropology*, and of the remarkable way in which it accorded with the observed facts. The results of Dr. Berry's investigations were that the cases seemed to prove that bilateral segmentation of the ovum was unnecessary for the production of twins, and that the liver was a mid-gut development.

REVIEWS OF RECENT BOOKS.

Obstetrics: A Text-Book for the Use of Students and Practitioners. By J. Whitridge Williams, Professor of Obstetrics, Johns Hopkins University; Obstetrician-in-Chief to the Johns Hopkins Hospital, Baltimore, U.S.A. New York and London: D. Appleton and Co., 1903. 25s. net.

Professor Whitridge Williams is an obstetrician whose name is as familiar and whose work is as highly appreciated in this country as across the Atlantic; the contributions he has made to such subjects as papillomatous cysts, tuberculosis of the tubes and ovaries, and placental infarction carry the stamp of genuine ability and industry, and we opened the text-book which he has just published with great expectations. The task involved in writing a text-book is uncongenial to many minds possessing the keenness and originality which usually find their true employment in independent pathological or clinical observation. In the case of our author a mind of this stamp has been applied to the grind of a systematic treatise, and the result is a text-book the like of which we have seldom seen before. It will take a foremost place not only among the numerous works on the same subject which our American cousins have produced during the last ten years, but among all modern English text-books of obstetrics. It displays a scholarly acquaintance with the history and development of the obstetric art, a thorough mastery of recent advances in human embryology and in obstetric pathology, and, lastly, a clinical instinct which, even if it stood alone, would make it noteworthy.

In the general arrangement of the work Whitridge Williams has not departed from conventional lines; he takes up *seriatim* Anatomy, Development, Physiology of Pregnancy and Labour, Obstetric Surgery, and the Pathology of Pregnancy, Labour and the Puerperium. It goes without saying that the illustrations are profusely distributed and well produced; the author tells us that all except those relating to Embryology have been specially prepared under his own supervision.

On coming to close quarters, we notice that more attention is paid to historical considerations than is usual in text-books, and senior students will find much interesting information about such subjects, *e.g.*, as the evolution of our knowledge of the anatomy and development of the pelvis and of the anatomy of labour, information which is usually difficult of access. A short bibliography is also appended to each chapter. In describing the uterus the author has paid attention to the variations in the endometrium which are met with at different ages, and illustrates these variations very well in three original drawings from microscopic sections. The mucous membrane of the Fallopian tube is also well described and illustrated in regard to different portions of the canal. The structure of the corpus luteum is discussed and described with a certainty and precision which are rarely met with in descriptions of this interesting body; the lutein cells are regarded by the author as without doubt of connective-tissue origin in the human subject. This opinion he bases upon the personal examination of several hundred specimens. The

original illustrations of this section well deserve careful study. The structure and development of the placenta are fully dealt with, the great additions made to our knowledge within recent years by the early human ova investigated by Leopold and Peters being well described; illustrations of these two classical specimens are also given. Embryology is considered with praiseworthy brevity, only the development of the fœtal membranes being at all fully described.

The chapter in which the Diagnosis of Pregnancy is discussed is well arranged, clearly written, supported wherever possible by anatomical evidence, and there is no padding. In connection with Hegar's sign two drawings will be found showing a 6—8 weeks ovum *in situ*, and thus illustrating the "condition of the uterus which makes it possible." In regard to the management of normal pregnancy the author, in common with most American obstetricians, insists upon the importance of an examination of the urine being made twice a month during the first seven months, and thereafter every week to term. If the patient fails to send up the specimen at the proper time the physician must write for it, and he must not be content with testing it for albumen, but must make a thorough examination, including a microscopic search through the sediment. In this matter the zeal of our brethren across the water would appear to have run away with their judgment. In insisting upon the importance of a careful and detailed abdominal and vaginal examination of the patient four to six weeks before labour we are, however, heartily in accord with the author. The chapter dealing with Presentation and Position will be somewhat puzzling to the British student; the author distinguishes between presentation of the "occiput" and presentation of the "brow," speaks of a "frank breech presentation," and describes six different positions in normal vertex presentation, instead of the four which content the British teacher. The French method of nomenclature is the one adopted in the book, and the author rightly regrets that no one system has received universal adoption. The importance of a routine method of abdominal palpation is insisted upon, and four manœuvres are described which are applicable in palpation, both during the later months of pregnancy and in the intervals between the pains of labour. In the same manner three manœuvres in vaginal examination are described. The practical value of these points will be well appreciated by those who have encountered the difficulty of teaching students how to obtain precise and definite information from abdominal and vaginal examinations. The mechanism of labour is somewhat unsatisfactorily dealt with. The lever theory of flexion is the only theory mentioned, and the author entirely omits reference to the fact established by the study of frozen sections, that the head may be completely flexed before the onset of labour by the predominating influence of the flexor muscles over the extensors. The author rejects the "inclined plane" theory of internal rotation, and details Dubois' famous experiment, which he considers to prove that the resistance of the pelvic floor is the cause of this movement.

In discussing the care of the New-born Child, the author has some interesting paragraphs upon the treatment of the stump of the umbilical cord. He insists upon the necessity for strict asepsis, but rejects as unnecessary the recently suggested procedures of excision of the cord and ligature of its vessels, angiotripsy, cauterisation, etc., etc. He rightly emphasises the fact that the death of an infant during the first ten days is often due to unrecognised umbilical sepsis, and there is no doubt that more attention to this important practical detail is called for.

It is worthy of note that in discussing the indications for the Induction of Premature Labour the author declares his opinion that this procedure in cases of contracted pelvis ought to be abandoned in favour of Cæsarean section at term, if spontaneous delivery does not occur. His condemnation of induction depends upon the high fœtal mortality, estimated by the author at 39·6 per cent., which attends it, but he admits that the results obtained from it are "exceedingly satisfactory so far as the mother is concerned." This view would probably be strongly criticised in this country, but there is no doubt that a strong tendency in that direction is observable upon the Continent. It is curious that in discussing the methods of obstetric dilatation of the cervix no mention should be made of the dilator of Bossi. The remaining chapters devoted to "Obstetric Surgery" are admirably written and illustrated, that describing the use of forceps containing much useful and practical information.

The author accepts the toxæmic theory of the causation of albuminuria and eclampsia, although he agrees that the view of the French school, following Bouchard, that normal pregnancy is accompanied by a condition of toxæmia, has been practically destroyed by the observations of Van der Bergh and Stewart. He attaches great importance to the systematic estimation of urea in cases of "toxæmia," and gives some interesting charts showing the effect of treatment upon the output of urea as estimated by the ureometer of Doremus.

Ectopic pregnancy is treated with commendable brevity, as befits an obstetric text-book, but is nevertheless a valuable review of the subject. Ovarian pregnancy is described, and the case of Thompson (*American Gynæcology*) selected for illustration. Only five of the reported cases are accepted by the author as genuine instances of this condition. Immediate operation is advocated in cases of ectopic pregnancy diagnosed before rupture or abortion have occurred, and in all cases in which urgent symptoms follow these accidents. If the case is not seen until encapsulation of the effused blood has occurred, palliative treatment should be adopted, and no resort made to operation unless the hæmatocele steadily increases in size or gives rise to symptoms of suppuration, a result which the author believes to be extremely rare.

The subject of pelvic contraction is considered with great detail, and the author has evidently devoted much thought and labour to these chapters, which occupy nearly 100 pages, with 90 illustrations. We are not acquainted with any systematic account of the subject which bears comparison with that of Whitridge Williams; in method and arrangement it is original, and while pathological considerations receive ample treatment practical points are dealt with courageously and in the lucid style which prevails throughout this work.

Lastly, the chapter on Puerperal Infection must be noted as another piece of work of very high merit. The illustrations, prepared from sections made under the personal direction of the author, showing bacterial invasion of the endometrium, the presence of the protective zone of leucocytic invasion, and its effect upon the bacterial advance into the tissues, are extremely instructive and interesting.

In conclusion, we welcome the appearance of this fine text-book, and heartily commend it to all who desire to make their practice of midwifery sound and scientific. Naturally it is not to be recommended to students in whose minds examinations still obscure every other outlook, but to practitioners and teachers of the subject it must prove an invaluable, we had almost written an indispensable, guide.

GEBURTSHILFE UND GYNÄKOLOGIE IN IHREN BEZIEHUNGEN ZU DER ÜBRIGEN MEDIZIN UND ZU DEN NATURWISSENSCHAFTEN ("Introductory Address on Obstetrics and Gynæcology in relation to other branches of Medicine and to the Natural Sciences"). Akademische Antrittsrede gehalten am 16th Mai, 1903. von Professor Dr. Veit. Wiesbaden: Bergmann, 1903.

Professor Veit's Address is far above the average of orations of its kind. He begins by a graceful reference to his predecessor, Schroeder, renowned for his zeal for hospital organisation and for the establishment and improvement of laboratories, a zeal which bore fruit, whilst he was one of the first operators of his time, and also a first-class teacher. His text-book was a treatise free from compilation, padding and commonplace uniformity too familiar in the pages of many educational works now in circulation. Above all, no authority did more to establish gynæcology as a distinct and scientific branch of medicine; "in fact," says the lecturer, "we may thank Schröder that we are masters in our own house."

The lecturer shows how many purely scientific problems are included in obstetrics, and how many general questions in physiology and pathology may be solved by the aid of obstetrical science. Fœtal nutrition, osmosis and metabolism as shown in gestation are matters of the highest interest. The metabolism is no doubt subtle as a whole, too subtle to be completely demonstrated by the present resources of science; yet it includes "coarse" changes or "coarse" lesions easily revealed, although they remained unrecognised until a very few years ago. Thus Professor Veit dwells upon the fact that cells from chorionic villi have been found in the veins of the lungs of women after death from puerperal eclampsia. Chorion cells undoubtedly enter the maternal circulation under less pathological conditions, and have some influence on the blood-cells. The entrance of fœtal elements into the system of the mother may help to explain the great difference between the average multipara and the average elderly virgin. The subject of phthisical wives is touched upon in this address. Professor Veit thinks that more must be known about the precise influence of normal pregnancy on the mother before the obstetrician can decide whether a consumptive woman should be suffered to become pregnant, or whether when impregnated gestation should be allowed to go to term.

To the rebuke that all such considerations are "unpractical" the lecturer once more reminds his audience of the great Schroeder, who was recognised as a first-class operator, yet worked hard at scientific questions, such as the anatomy of the lower uterine segment, and the physiology of the normal detachment of the placenta in labour.

Another scientific obstetrical question on which we ought to dwell is the part played by the fœtus during, as well as before, puerperal convulsions. That part is clearly something akin to auto-intoxication, although not identical, since the fœtus has become to a great extent a separate individual, more or less may it serve to throw a light on auto-intoxications in general.

British authorities will be satisfied to hear that Professor Veit insists that the timely diagnosis of cancer rests with the practitioner who is the first to be consulted by the patient, and who therefore bears the weight of a great responsibility. Too often, for various reasons not difficult to devine, he adopts the policy of the ostrich, as the lecturer rightly terms it. We are still far from successful, even in our prompest operative treatment of uterine cancer.

Professor Veit concludes his interesting address with observations on over-population and on the "higher" education of women. The latter, so popular as a subject in orations and newspaper articles, he does not believe in. His picture of the German schoolgirl is not agreeable to us, as we fancy we have observed the same type on our side of the North Sea. We are pained to find that German young ladies, modern Gretchens and Mignons, who "enter the high school as visions of life and loveliness, for the most part leave it as pale nervous women," but we understand the learned Professor's plaint only too well. Let us hope that Professor Veit has exaggerated the evil effects of modern education on the Teutonic maiden. He has certainly not over-rated the importance of scientific obstetrics and gynæcology.

Die Syphilis in der Schwangerschaft ("Syphilis in Pregnancy"). Dr. Bernard Rosinski, Königsberg. Stuttgart: Enke, 1903.

This monograph will be found to supply a definite want, as syphilis has not hitherto been discussed from the purely obstetric point of view, in a very satisfactory manner. Dr. Rosinski has dealt with the subject in a very critical, but eminently sensible and reasonable way. The history of the subject is dismissed in six pages. There follows a full discussion of the theory of intra-uterine transmission of syphilis. In the course of this discussion the author has separated the wheat from the chaff with marked success, the result being a perfectly fair statement of our present knowlelge. The third chapter contains a clinical portion; and passes on to describe the specified tissue changes in the fœtal organs, these being illustrated by some beautiful coloured plates. The concluding thirty pages of this chapter deal with syphilitic disease of the placenta, and are, perhaps, the most interesting in the book. The author insists strongly that the maternal and fœtal portions of the placenta must be regarded quite separately from the syphilographer's point of view. The placenta can be diseased on one side—either the fœtal or the maternal—the other side remaining unaffected. If this be forgotten inaccuracies creep in at once. In practice the placenta belonging to a syphilitic fœtus is the one which attracts attention, but for science the placenta of a syphilitic patient who bears a healthy child is also important. The author refuses to accept Fräenkel's conclusion that a syphilitic placenta is only to be found with a syphilitic fœtus. Amongst macroscopic characters he insists on the large size, increased weight, rosy flesh colour and leathery consistence of the typical specific placenta. Infarcts he dismisses as not characteristic. Passing on to describe the microscopic changes in the fœtal portion, the author regards diffused inflammation and cell proliferation as the main features of the picture—hyperplasia of the villi, stroma, blood-vessels and epithelial covering. The process is seen to begin in the smallest vessels in the tips of the villi. The endothelial cells in these becomes lighter in colour, round in form; they increase in number until the lumen of the vessel is occluded. The stroma of the villi becomes crowded with large rounded nuclei, amongst which the altered vessels cease to be distinguishable. As a rule, the epithelium is last to change. It is thickened by irregular proliferation. Dr. Rosinski next describes a special phenomenon not hitherto noted in syphilitic placental, namely, an invasion of the stroma of the villus by the syncytium. He describes and figures masses of cells derived from the epithelium, but lying within the stroma of the villus.

Isolated as a rule, these invasions can be seen in favourable instances, to be directly continuous with the syncytium. The author regards them as the result of active ingrowth of the epithelium into the stroma. Somewhat similar appearances have been described in hydatil mole by Neumann and Chaletzky, and by Langhans in an abortion placenta which was probably specific. The author considers that invasion of the stroma by the syncytium being confined apparently to hydatid mole and to specific placental, the observation of the phenomenon should afford a criterion for the diagnosis of syphilis. He admits, however, that his observations must be confirmed before the point can be accepted. The general swelling and thickening of the villi is mentioned, with the resulting reduction in size of the intervillous spaces. This favours thrombosis and the changes secondary to it which are observed in, but are no longer regarded as characteristic of specific placenta. Passing next to the maternal portion of the placenta, the author states that syphilitic disease in this situation has no distinguishing features. Overgrowth of the decidual elements is seen, secondary changes, like the so-called endometritis placentaris gummosa of earlier writers, are observed. Schwab has described microscopic gummata and arteritis in the decidua as peculiar to syphilis, but the author does not agree with him, and holds that the diagnosis of specific disease of the decidua is impossible by any criterion now known. The same holds good of the cord and the membranes.

The work concludes with a chapter on prognosis and therapeutics. We have said enough to indicate that Dr. Rosinski's work will be of interest and value to a great number of British readers. It is well written, well illustrated and well arranged. The original observations of course require confirmation, but though modesty propounded they are worthy of full consideration. The critical and literary portions of the work, as remarked above, are excellent.